

The background image shows a landscape with a large, green, forested hill in the distance. In the foreground, there is a body of water with a small boat and some equipment. The sky is blue with white clouds. A green rectangular box is overlaid on the right side of the image, containing the text "ANNUAL REPORT 2016".

# ANNUAL REPORT 2016

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## DIRECTORY





## Message from the Secretary



2016 was undoubtedly a year of formidable challenges for Philippine agriculture, as natural calamities-- from dry spells to strong typhoons -- further pummeled an ailing rural economy.

But it was also a year of Hope, as our Duterte team took over the Department of Agriculture and Fisheries by the middle of the year and immediately started a sweeping reorganization and reform in pursuit of President Duterte's promised Change.

When I took over the Department of Agriculture in mid-2016, the sector that I had sworn to serve in the next six years was undoubtedly moribund, weakened by years of neglect and misprioritization that resulted in dismal yearly performances. Despite the Philippines' rich land and water resources, the huge yearly allocation and the presence of local and global research institutions, the country has remained a leading importer of rice, meat and dairy, fishes and high value commodities such as onions, garlic, and coffee.

So what have we done to revive a dying agriculture sector? Heeding the President's order to go back to the basics of producing food and addressing poverty, we focused on self-sufficiency in staple foods and market link ups for high value crops. As we updated and overhauled deficient food production and consumption maps, we intensified research and technology development and made agricultural credit accessible to the poorest farmers and fishers. To ensure social equity and resource sustainability, we adopted people- and environment-centered policies in water, soil, agriculture and fishery management. And as we launched a massive institutional restructuring and renewal of the DAF, we set off a binge of virulent anti-smuggling and anti-corruption campaigns. All these were aimed at forging a more forceful, efficient and transparent delivery of services to our farmers and fisher folk.

Evidently, our efforts are paying off. Although the agriculture sector contracted by 1.3 percent in 2016, our livestock and poultry subsectors managed to gain 4.6% and 1.3% respective growth rates while agriculture related services grew at 3.8%.

This early, we can see a very promising 2017, as agriculture recovers with a high 5.7 % growth in the first semester, valued at PhP 413.3 trillion in real terms. The crops subsector recorded an output increase of 9.8 percent, with bumper harvests of rice up by 12.1%, and corn by 30.7%. On the other hand, the poultry subsector grew by 5.1 percent and livestock by 0.86%.

Inspired by this crucial turnaround, the new DA Duterte Action Team is now even more determined to further hone and pursue its strategies and programs. Having completed the first ever national color-coded agriculture guide map, we can now prioritize crops accordingly, intensify research, strengthen the extension system and speed up mechanization and modernization. To address the challenge of climate change, we will build climate-resilient, small-scale irrigation systems and pursue an integrated and sustainable ecosystems approach to agricultural and fishery development.

Indeed, we will all remember the year 2016 for the overwhelming challenges that opened to us new opportunities for growth. As I therefore thank all our sector partners and stakeholders for struggling with us against all the odds last year, I urge all of you to further strengthen our partnerships in pursuing a robust and sustainable future for Philippine agriculture and fisheries -- in 2017 and beyond.

  
EMMANUEL F. PIÑOL  
Secretary





## **MANDATE**

The Department of Agriculture (DA) is the government agency responsible for the promotion of agricultural development by providing the policy framework, public investments, and support services needed for domestic and export-oriented business enterprises.

In fulfilling this mandate, it shall be the primary concern of the Department to improve farm income and generate work opportunities for farmers, fisherfolk and other rural workers. It shall encourage people's participation in agricultural development through sectoral representation in agricultural policy-making bodies so that the policies, plans and programs of the Department are formulated and executed to satisfy their needs.

It shall also use a bottom-up self-reliant farm system approach that will emphasize social justice, equity, productivity and sustainability in the use of agricultural resources.

## **VISION**

Modernized smallholder agriculture and fisheries, and a diversified rural economy that is dynamic, technologically advanced, and internationally competitive, with transformation guided by sound practices of resource sustainability, the principles of social justice, and strong private sector participation.

## **MISSION**

To help and empower the farming and fishing communities and the private sector to produce enough accessible and affordable food for every Filipino, and a decent income for all.



## Back to Basic

The year 2016 saw the Department of Agriculture (DA) go back to the basics. While staying steadfast in providing critical services to farmers and fisherfolk, the Department, under the leadership of its new Secretary, Emmanuel F. Piñol, embarked on building the basic foundations for a sound agriculture and fisheries program. The Department also renewed its focus on a) enabling the sector to provide food for every Filipino, b) increasing the income of farmers and fisherfolk, and c) enhancing resilience to climate change risks.

Reflecting the thrusts and priorities of President Rodrigo R. Duterte, Secretary Piñol identified the ten (10) basic foundations of a sound agriculture and fisheries program.

## 10 BASIC FOUNDATIONS OF A SOUND AGRICULTURE AND FISHERIES PROGRAM UNDER PRESIDENT DUTERTE

**A National Color-Coded Agricultural Guide Map.** The first of the planning tools developed under the Adaptation and Mitigation Initiative in Agriculture (AMIA) project is the AMIA National Color-Coded Agricultural Guide (NCCAG) Map. The color-coded map identifies the crops that are most suitable in agricultural parcels, and overlays soil properties, elevation, rainfall pattern, temperature and more importantly, the projected climate-induced multi-hazards. The maps will guide the government in determining forward-looking policies and site-specific food production projects and infrastructure investments. As a decision support tool, the color-coded map can be used for investment planning, climate-resilient research and development, innovative credit and insurance packages, climate-resilient agriculture and fisheries extension, infrastructure and disaster management.

**An intensive technology updating and sharing, modernization and mechanization program.** The Department is braving the challenges of the new world by embarking in various technological advancements aimed at increasing and improving productivity in the agriculture sector.

DA is looking into the utilization of solar panels for various agricultural activities, including small water systems to irrigate the farmlands. With the aid of the solar panels, ground water will be brought to the surface which may be used for irrigation, water for fish tanks/pens and even hydroelectric power.

In addition, the DA, together with Pure Force and Rescue Corp., developed a phone application that is considered an innovation in information technology. The application, called "FARMHELP", will give farmers access to needed information about plant and animal diseases and weather forecast. It can also guide an individual on where to sell his/her products or buy farm supplies. The key feature of the application is a 24/7 answering program that will respond to requests, like identifying diseases, by simply taking a picture of the plant or animal and sending it to the DA "FARMHELP" desk. Experts will analyze the disease based on the photo they receive and will respond to the farmers within 24 hours.

**A National Food Consumption Quantification Study.** A nationwide survey will be conducted to determine the most consumed and in-demand foodstuff and agricultural commodities among Filipinos. This initiative will also establish the food consumption rate in relation to population growth of the country, allowing the government to think ahead and pursue programs and projects that address food security concerns proactively.

**An institutional restructuring and paradigm resetting for the Department of Agriculture and its officials and employees.** Nationwide orientation and mind setting for all officials and employees of the DA to ensure that they are guided on the priorities of the Duterte Administration in agriculture and fisheries and that the road map for the mission to provide available and affordable food for the Filipinos is clearly explained.

**An easy access financing program for farmers, fishermen and agriculture and fisheries stakeholders.** Adhering to the directives of the DA Secretary, the Agricultural Credit Policy Council will set up a lending package providing crop insurance loan for high risk areas. In addition, the LandBank of the Philippines, under a partnership with DA, will come up with sizeable funding for the inland fisheries, fishponds and fish cage industries to prevent an acute shortage of fish supply in the country.

**A strategic and effective post-harvest, storage and processing facility.** Part of the DA priority agenda is the full-operation of the Benguet Trading Center, which will later be turned-over to the farmers of the Cordillera. The Cordillera Autonomous Region (CAR), which is a major producer of highland vegetables and dubbed as the Salad Bowl of the Philippines was chosen to house the

largest trading center of agricultural produce to assist the vegetable growers of the highlands. Benguet accounts for 90% of the total production in the region.

**A government-initiated and supported aggressive marketing campaign especially for high-value crops in foreign markets.** High-value crops like rubber, banana, abaca, coconut, and marine products will be given full support. Likewise, in line with the target of boosting farmers' market access and income, the DA chief has vowed to personally lead the promotions and marketing for the local agriculture, fisheries, and organic food in international markets, including the heirloom rice of the Cordillera highlands.

A coordinated program with other agencies of government to ensure the protection and preservation of water sources, especially watershed. The DA, alongside the Bureau of Fisheries and Aquatic Resources and the Department of Environment and Natural Resources, is directed to bring back the polluted Laguna de Bay to the pristine state it was in some hundred years ago. As such, various measures towards a cleaner water resource and bigger source of fish catch for the small fishers will be undertaken.

DA will also carry out an Agro-Forestry Program, which will designate a family to protect and take care of a designated area planted to fruit-bearing tree species, providing them a stable income and source of food.

A relentless campaign for the enforcement of agriculture and fisheries laws, especially on land conversion and illegal fishing. Following the success of the closed season policy of DA-BFAR, resulting in the lifting of the yellow card slapped on the country by the European Union, the Agriculture Department will carry on with the implementation of the initiative to give ample time for marine resources to replenish and restore.

In addition, it will continue to uphold agri-fishery laws with the creation of various task forces headed by the local fishers themselves, including the indigents and the minorities such as the Badjao.

**Re-introduction of basic agriculture in the primary and elementary grades of the Philippine schools system.** In collaboration with the Department of Education, the DA will revive basic gardening as a special activity for elementary school children in both public and private schools all over the country. What the DA would like to promote is not just basic production, but the basic principles of sustainable agriculture that are solidly based on science and environmental conservation. The initiative seeks to encourage the young generation to get acquainted with agriculture and eventually develop a liking for the sector.







## OVERALL PERFORMANCE OF THE AGRICULTURE SECTOR

### A Challenging Year

This year has been very challenging for the agriculture and fisheries sector which was hit by numerous calamities – the El Niño Phenomenon caused prolonged dry spells in certain parts of the country while strong typhoons such as Lawin, Nona, and Karen wrought damages on crops and facilities. This resulted to a contraction in the sector's real Gross Value Added (GVA) by 1.3%.

Agriculture and fisheries sector contributed 8.7% to the country's Gross Domestic Product (GDP) in 2016. This is lower than the previous year's share of 9.5% on account of the accelerated growth of the industry and services sector as well as reduced production in crops and fisheries subsectors. Table 1 provides an overview of the sector's contribution to the economy in 2015 and 2016.

Particulars (at 2000 constant prices)	Value (in PhP Million)		% Share		% Growth	
	2015	2016	2015	2016	2015	2016
Gross Domestic Product (GDP)	7 600 175	8 264 401	100.0%	100.0%	6.1%	6.9%
GVA in Agriculture, Hunting, Forestry & Fishing	7 9742	710 510	9.5%	8.7%	0.1%	-1.3%
Agriculture and Forestry	59 270	587 554	7.8%	7.2%	0.6%	-0.6%
Fishing	128 474	22 955	1.7%	0.5%	1.8%	-4.3%
GVA in Industry	2 545 400	2 758 347	33.5%	33.9%	6.4%	8.4%
GVA in Service	4 335 022	4 657 546	57.0%	57.3%	6.9%	7.4%

Table 1. Gross Domestic Product by Industrial Origin, 2015-2016

Despite the decrease in agriculture and fisheries GVA in 2016, the livestock subsector managed to post 4.6% real growth in GVA, the poultry subsector also increased by 1.3%, and agriculture related activities and services grew by 3.8% (see Table 2).

Subsector	Value <sup>a</sup> (in million pesos)		Growth Rate (%)
	2015	2016	
Agriculture, Hunting and Forestry <sup>a</sup>	715,705	707,139	-1.2
Crops	349,658	338,481	-3.2
Livestock	99,567	104,153	4.6
Poultry	82,397	83,478	1.3
Agri activities/services	55,610	57,741	3.8
Fisheries	128,473	123,286	-4.0

Table 2. Gross Value Added (GVA) in Agriculture by subsector, 2015-2016

<sup>a</sup>Excluding Forestry

<sup>b</sup>at 2000 constant prices

Source: National Accounts of the Philippines, PSA, January 2017

In terms of contribution to agriculture and fisheries GVA, the crops subsector maintained the large share of 48% followed by livestock at 15%, poultry at 12% and fisheries at 17% (Figure 1)

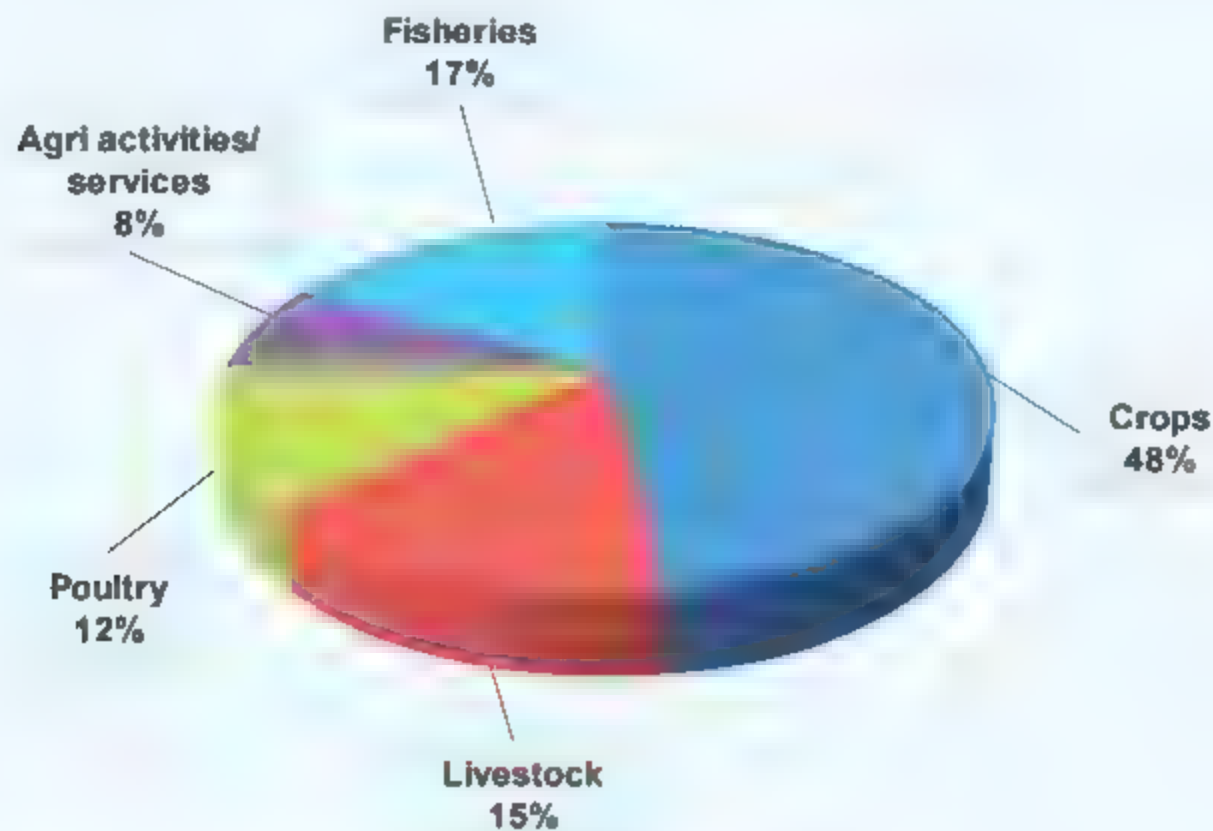


Figure 1. Contribution to Agriculture GVA per subsector, 2016

### Farmgate Prices Compensate

Farmgate prices increased for the majority of agricultural commodities to offset the impact of production declines on incomes of farmers and fisher folk. On the average, farmgate prices were 3.36 percent higher in 2016. Price increments were registered in the crops subsector at 6.57 percent and poultry subsector at 2.31 percent (see Figure 2 for details). On the other hand, the livestock and fisheries subsector posted an average price reduction of 2.02 percent and 0.10 percent respectively. Highest increases in farmgate prices were recorded on onion (72.73 percent), mango (26.07 percent), abaca (23.41 percent), coconut (20.74 percent), and tomato (16.30 percent).

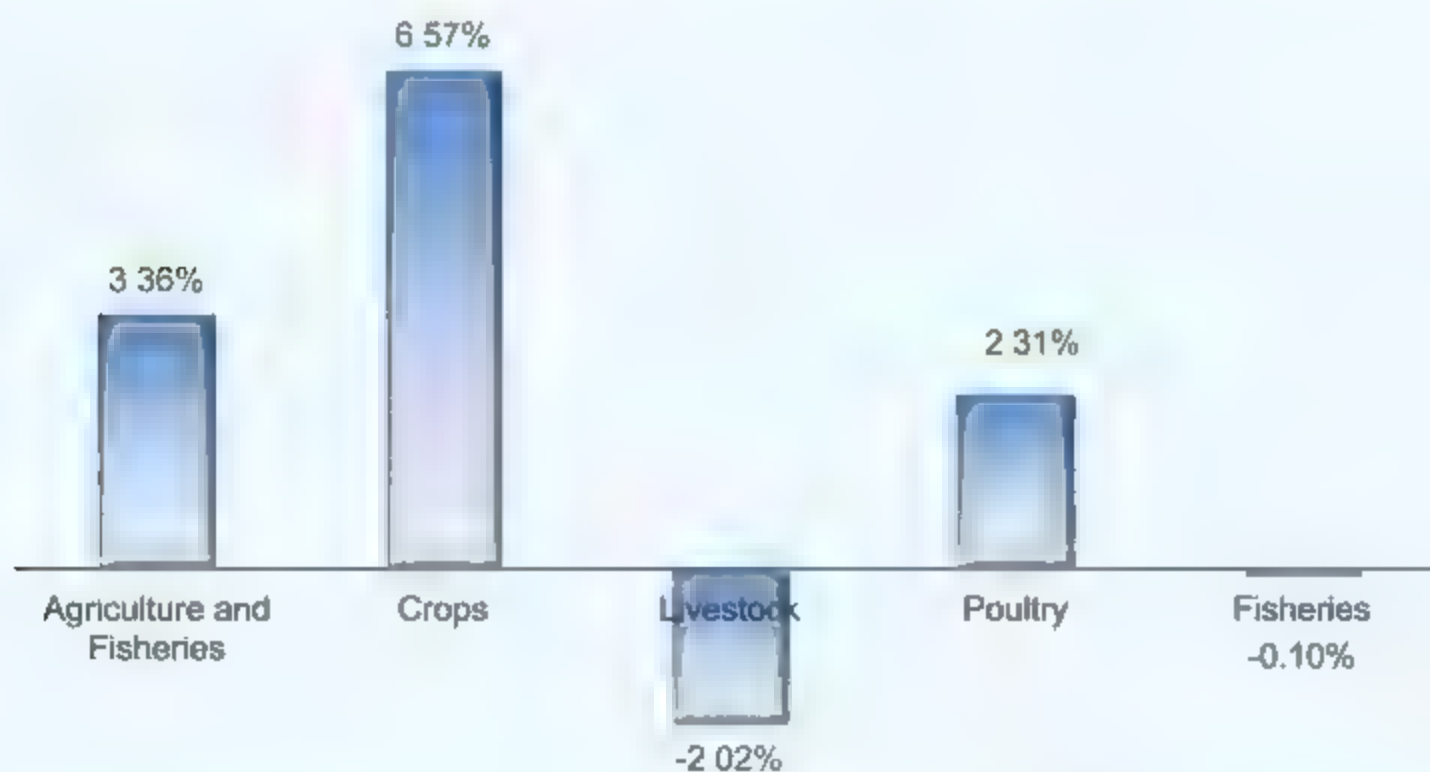


Figure 2. Growth Rates of Average Farmgate Prices by Subsector

## Strong Growth in Livestock and Poultry

In terms of production volume, the livestock and poultry sector showed the highest growth rates for this year, with several products—among them hog, eggs and dairy—exhibiting robust growth. But with several typhoons and a prolonged El Niño, the production of crops and fishery products registered an overall decline. A few commodities, like milkfish, abaca, cassava, eggplant, pineapple and tobacco, also managed to post positive production growth.

Commodity	2015 Production ('000 MT)	2016 Production ('000 MT)	Growth Rate (%)
Hog	2,120.33	2,231.67	5.25
Duck Eggs	42.41	44.16	4.13
Chicken Eggs	444.55	461.72	3.86
Dairy	20.39	21.16	3.78
Milkfish	392.74	402.66	2.53
Carabao	142.05	144.68	1.85
Abaca	70.37	71.62	1.78
Cassava	2,710.92	2,755.15	1.63
Cattle	266.89	270.42	1.32
Mango	33.63	34.05	1.25

Table 3. Commodities with Highest Production Growth Rates, 2015-2016

Source: *Performance of Philippine Agriculture 2016*, PSA

## Second Largest Employer of the Labor Force

In 2016, agriculture and fisheries employed 11.0 million out of the 41 million total employed persons. This is 2.4% lower than 2015 agricultural employment of 11.3 million. Despite the decrease in employment, the sector still employs more than a quarter of the total labor force (Figure 3).

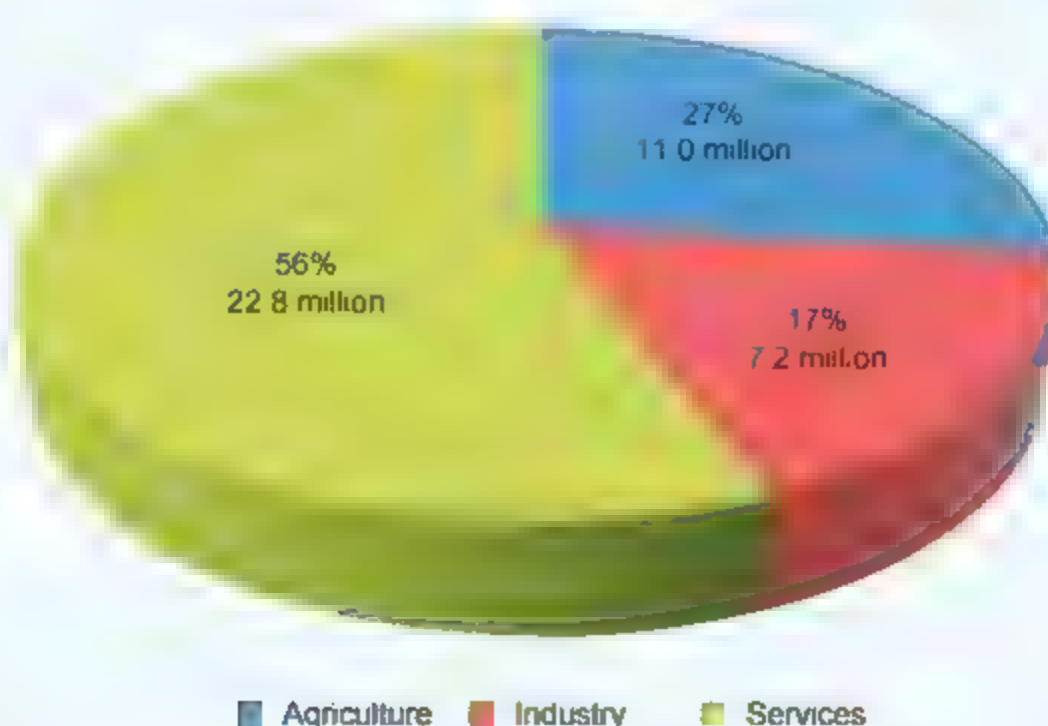


Figure 3. Growth Rates of Average Farmgate Prices by Subsector

## Improved Agricultural Trade Performance

The country's total agricultural trade expanded by almost 8 percent from USD 16.48 billion in 2015 to USD 17.80 billion in 2016. This contributed 12.12 percent to the country's total trade in said year (Table 4).

Particulars	Value (in USD million)		Growth Rate (%)
	2015	2016	
Agricultural Exports (FOB)	5,157.30	5,280.24	2.38
Total Exports	58,827.24	57,406.12	(2.42)
% Share of Agri to Total Exports	8.77	9.20	4.92
Agricultural Imports (CIF)	11,324.48	12,518.84	10.55
Total Imports	74,749.63	89,435.12	19.65
% Share of Agri to Total Imports	15.15	14.00	(7.61)
Agricultural Total Trade	16,481.77	17,799.08	7.99
Total Trade	133,576.86	146,841.24	9.93
% Share of Agri to Total Trade	12.34	12.12	(1.76)
Agricultural Trade Deficit	6,671.8	7,238.6	7.37

Table 4. Philippine Agricultural Trade, 2015-2016

Source: PSA

Agriculture based exports increased by 2.38 percent from USD 5.16 billion to USD 5.28 billion. Among the agricultural commodities, coconut oil and fresh banana contributed the highest export shares, at 21.81 percent and 13.83 percent, respectively (Table 5).

Particulars	Value (CIF in USD million)		Growth Rate (%)
	2015	2016	
Coconut Oil (Crude and Refined)	1,128.15	1,151.69	2.03
Fresh Bananas	657.87	730.36	11.02
Pineapple and Products	574.24	710.66	23.76
Coconut Products	242.53	297.59	22.70
Tuna	293.34	277.52	(5.39)
Seaweeds and Carageenan	202.60	199.25	(1.65)
Manufactured Tobacco	207.61	161.18	(22.37)
Centrifugal Sugar	21.77	99.04	354.83
Milk, Cream, and Related Products	84.04	91.68	9.09
Mango and Products	103.93	83.73	(19.43)
Value of Top Ten Agricultural Exports	3,516.69	3,802.7	21.57
Total Value of Agricultural Exports	5,157.30	5,280.24	8.13
% Share of Top Ten Agricultural Exports to Total	72.02	68.9	

Table 5. Top Ten Agricultural Export Commodities, 2014-2015

Source: PSA

Agricultural imports likewise rose by 10.55 percent in 2016, valued at USD 12.52 billion. Among the top agricultural exports are wheat (including spelt) and meslin with 9.82 percent share and soyabean oil cake with 8.42 percent share (Table 6).

Particulars	Value (CIF in USD million)		Growth Rate (%)
	2015	2016	
Wheat (including Spelt) and Meslin	1,319.24	1,229.81	(6.78)
Soyabean Oil Cake	888.40	1,053.93	+8.63
Milk, Cream, and Products	643.73	641.35	(0.37)
Coffee	298.3	483.04	62.03
Frozen Meat of Bovine Animals	323.43	347.61	7.47
Manufactured Fertilizer	319.47	317.09	(0.75)
Rice	615.70	278.87	(54.71)
Cocoa	99.69	259.92	30.46
Urea	206.75	232.89	12.65
Frozen Chicken Meat	179.32	221.99	23.79
Value of Top Ten Agricultural Exports	4,993.86	5,066.49	1.45
Total Value of Agricultural Exports	324.48	258.84	(10.55)
% Share of Top Ten Agricultural Exports to Total	44.10	40.47	

Table 6. Top Ten Agricultural Import Commodities, 2014-2015

Source: PSA

### Increased Net Returns in High Value Crops

Net returns on selected high-value commodities are on the uptrend. Table 7 details the ten agricultural commodities with highest growths in average net returns for 2016.

Commodity	Value (Php per hectare)		Growth Rate (%)
	2015	2016	
Potato	158,736	371,184	57.24%
Habichuelas	23,060	37,313	38.20%
Native Onion	93,846	132,764	29.31%
Eggplant	67,021	85,419	21.54%
Durian	68,310	85,318	19.93%
Mango	55,483	69,277	19.91%
Onion Bulb	283,722	351,657	19.32%
Cassava	33,024	40,767	18.99%
Cashew	4,488	16,457	11.96%
Pili	98,542	111,576	11.68%

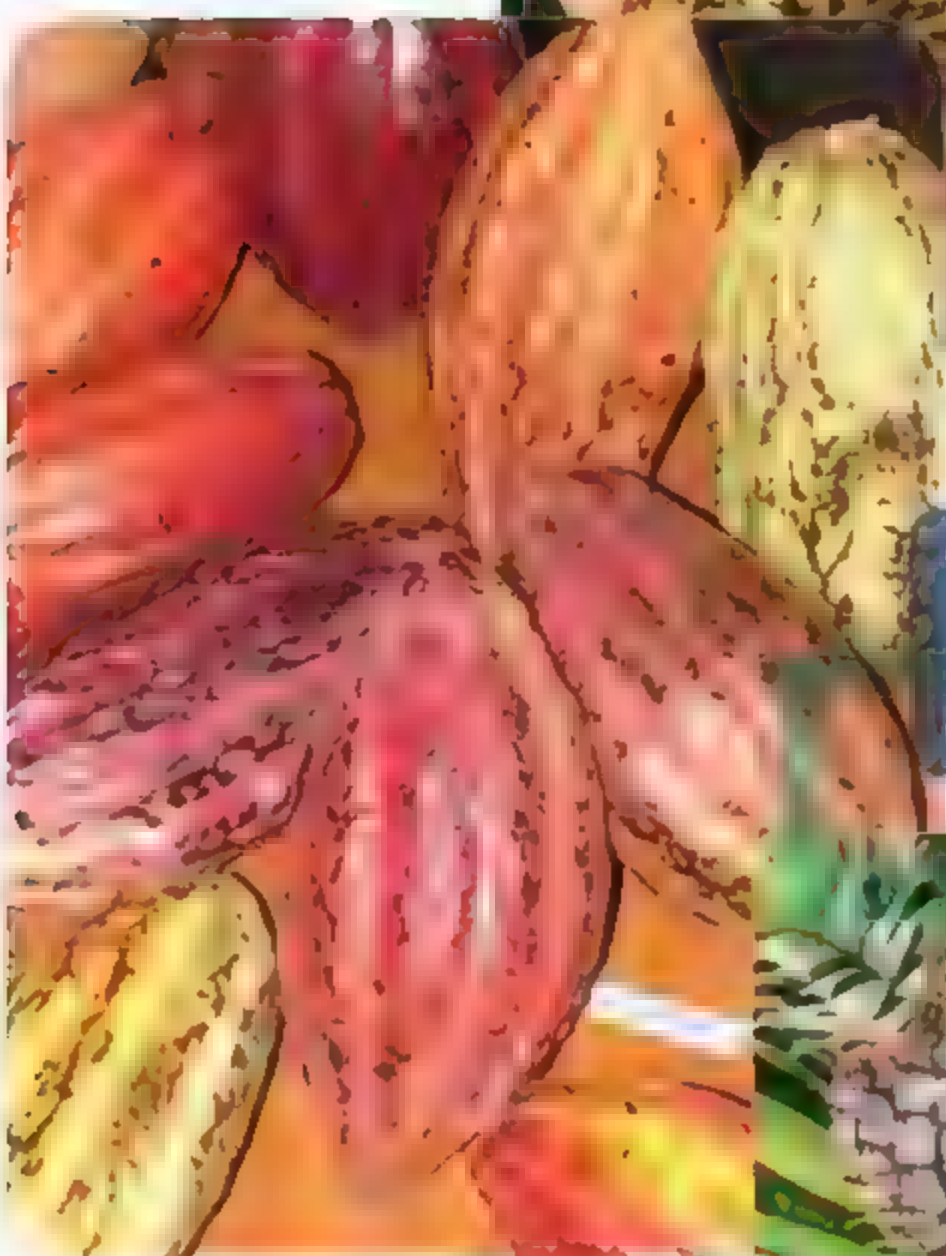
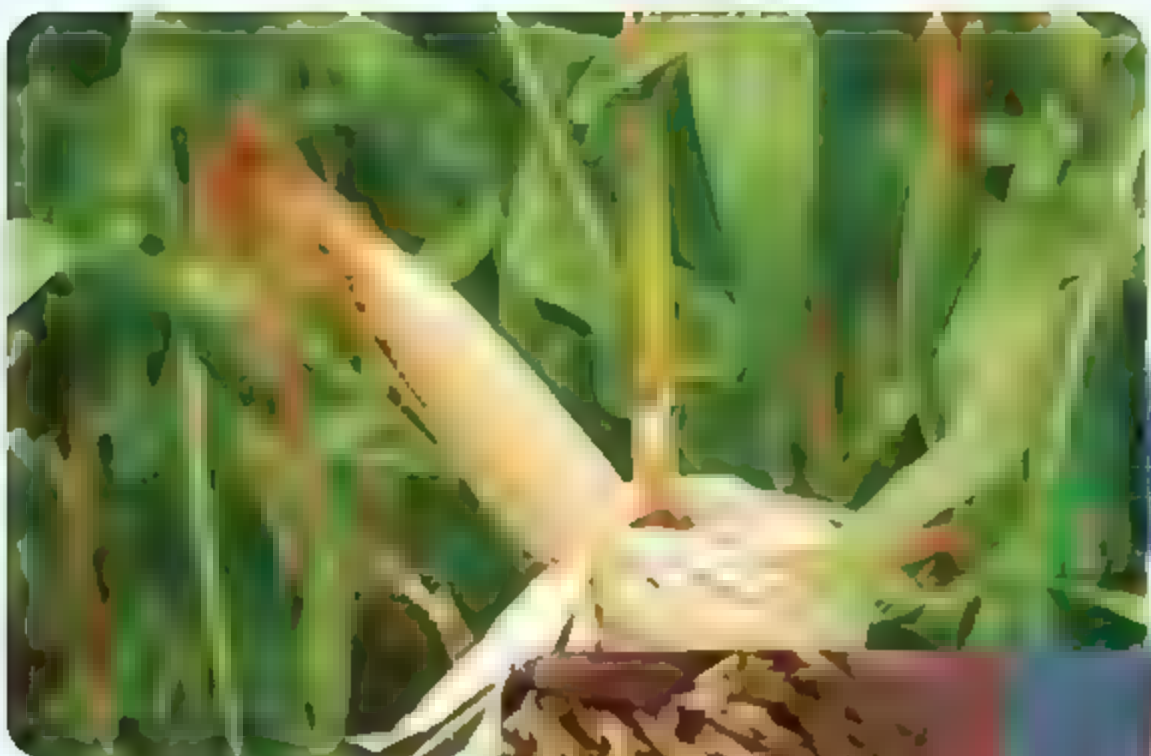
Table 7. Commodities with Highest Net Returns (PhP per hectare), 2015-2016

Source: PSA

### Achieved 95% Sufficiency in Rice

Despite the production challenges posed by ill weather, the palay sector was able to supply 95% of the country's needs in 2016. This is around 6 percentage points higher than the previous year's ratio.

Particulars	2015	2016	Increment
Rice Self-Sufficiency Ratio (%)	88.93	95.0	6.08





*Duterte Delivers*

AVANCE



During one of Secretary Duterte's public appearances held in Davao

## PROVIDING SUPPORT SERVICES TO OUR FARMERS AND FISHERFOLK

### Highlights of Accomplishments by Major Final Output

Major Final Outputs (MFOs) are goods and services that a department or a government agency is mandated to deliver to its clients. These MFOs essentially represent the agency's core mandated functions. As a basic element in the Organizational Performance Indicator Framework (OPIF) of the government, MFOs serve as basis for the allocation of budget, monitoring, reporting and evaluation of a department/agency performance.

### Agriculture and Fisheries Policy Services

The DA, through its Policy Research Service (PRS) and Department Legislative Liaison Office (DLLO), assisted in the enactment of the following agriculture and fishery related bills:

Title	Brief Description
Farm Tourism Development Act of 2016	Seeks to maximize the benefits derived from agriculture and tourism combined by enabling the encouragement, development and promotion of farm tourism in the country.
Philippine Halal Export Development and Promotion Act	Recognizes the potential contribution of Halal industries to Philippine exports and economic development by providing measures to promote the growth and ensure the integrity and quality of Philippine Halal exports, including the creation of the Philippine Halal Export Development and Promotion Board.
An Act further extending the period of Implementation of the Agricultural Competitiveness Enhancement Fund (ACEF), amending for the purpose Republic Act No.8178, as amended by Republic Act No.9496, entitled: "An Act replacing quantitative import restrictions on agricultural products, except rice, with tariffs, creating the Agricultural competitiveness enhancement fund, and for other purposes"	Extends the utilization period of the Agricultural Competitiveness Enhancement Fund (ACEF) until 2022 and allocates 80% for Credit, 10% for Research and Development and 10% for Scholarship
Anti-Agricultural Smuggling Act of 2016	Aims to boost the productivity of the agricultural sector and protect Filipino farmers and agricultural enterprises by imposing stiffer penalties on smuggling
Customs Modernization and Tariff Act	Seeks to simplify, modernize and align the country's customs procedures with global best practices to promote Philippine international trade

Table 8. 2016 Enacted Agri-related Bills during 16th Congress

Source: DA-Department Legislative Liaison Office

Furthermore, DA facilitated the issuance of Joint Department Circular (JDC) No. 1 series of 2016 entitled "Rules and Regulations for the Research and Development, Handling and Use, Transboundary Movement, Release into the Environment, and Management of Genetically-Modified Plant and Plant Products Derived from the Use of Modern Biotechnology to serve as the regulatory framework for the commercial release of genetically modified plants and plant products for propagation and for use as food and feed, or in processing.



The issuance recognizes both the DA's mandate to provide newly-available technologies for agriculture production and the agency's responsibility to ensure the safety of humans, plants, animals and the environment in using such technologies. Genetically Modified (GM) crops can contribute to increased food production and food availability. In some cases, GM crops can also enhance food quality and nutrient composition. Prior to adoption, however, all GM crops require a biosafety permit issued on the basis of an assessment of risks. All applications for any GMO use covering field testing, propagation, and for food and feed will undergo risk assessment by the DA, the Department of Health, the Department of Environment and Natural Resources, the Department of Science and Technology and the Scientific and Technical Review Panel, subject to the consultative requirements of the Department of Interior and Local Government. Following Article II-A of the JDC, the DA takes the lead in addressing biosafety issues related to the country's agricultural productivity and food security.

Moreover, to advance the country's agricultural interests, the DA continued its participation in ongoing negotiations on the various international free trade agreements (FTAs). These FTAs include the Regional Comprehensive Economic Partnership, ASEAN-Hong Kong Free Trade Agreement (AHKFTA), Philippines-European Union Free Trade Agreement (PH-EU-FTA) and Philippines-Japan Economic Partnership Agreement (PJEPA).

The DA, through the International Affairs Division (IRSD-AD), worked with Key Experts of the EU-Funded Trade Related Technical Assistance 3 (TRTA 3) Project to identify priority interventions for improving food safety and market access of PH products to the EU. These interventions include the Hazard Analysis and Critical Control Points (HACCP) inspection, Drug Residue Control Plan, Anti-microbial Resistance Monitoring, Good Aquaculture Practice, and Rapid Alert System on Food and Feeds.

Likewise, the DA Project Development Service (PDS), as the lead unit of the Department's Public-Private Partnerships (PPPs), facilitated the implementation of a project entitled "PPP Forum on Agriculture and Fishery Sectors among ASEAN and the Republic of Korea". This project, funded by the ASEAN-Korea Economic Cooperation Fund, aims to promote regular discussion of agro-fishery PPP-related issues, enhance the capacity of technical personnel for developing and implementing PPP projects, and assess current PPP practices in agro-fishery sectors among ASEAN Member States (AMS). The ASEAN Economic Community (AEC) Blueprint 2025 recognizes that PPPs harness private sector capital, human resources, technology and expertise in implementing government projects, and thus contribute to achieving the vision of "A Resilient, Inclusive, People-Oriented and People-Centred ASEAN".

As part of the project, the DA conducted the "Forum on Developing Public-Private Partnership Projects in Agriculture and Fisheries" on May 30 to June 3, 2016. Among the participants of the forum were 9 out of 10 AMS, the Public-Private Partnership Center of the Philippines (PPPC), an Australian firm named 4sightone, the Economic Research Institute for ASEAN and East Asia (ERIA), and the Department of Public Works and Highways (DPWH). The activity contributed to the AEC vision by developing new ideas for PPP projects, particularly on infrastructure.

## **Technical and Support Services**

### **Production Support Services**

The support services of the Department was rated 99.8% satisfactory in the 2016 in-house Client Satisfaction Survey (CSS), which was conducted among groups and individuals who were provided with various interventions such as seeds, planting materials, equipment and machineries, among others. Of the total feedback, some 99.86% of the respondents assessed that the DA interventions were of good quality and quantity and 99.61% noted that the interventions were given ahead or on time of need.

Criteria	Rating		Total No. of Feedbacks	% Satisfactory
	Satisfactory	Unsatisfactory		
Quality and Quantity of Service	729,505	1,057	730,562	99.86
Timeliness of Service	378,023	1,480	379,503	99.61
Total	1,837,033	3,594	1,840,627	99.80

Table 9 Results of In-house CSS 2016

Source: 2016 Budget Accountability Report

In 2016, a total of 14,990,140.75 kg of seeds were distributed. Most of the rice seeds were distributed to Regions II, which received 3,958,034 kg, XII, 2,200,980 kg, III, 1,643,423 kg and I, 1,387,430 kg. Regions V, I and IX received the bulk of the corn seeds with 111,850 kg and 82,000 kg, respectively. Also distributed were some 36,535,277 pieces and 112,048 kg of planting materials for avocado, banana, cacao, cashew, coffee, citrus, guava and guyabano, among others.

For livestock, a total of 34,980 animals were distributed, including 55 units of bee colonies, 713 head of large ruminants such as cattle and carabao, 30,961 head of poultry, 1,793 small ruminants such as goat and sheep, and 1,458 swine and offspring.

To ensure genetic improvement of animals, a total of 261,865 semen straws were also given to beneficiaries. The artificial insemination (AI) breeding efforts for cattle, carabao and goat executed by the national livestock agencies and DA RFOs were harmonized under the Unified Artificial Insemination Program (UNAIP). The semen production centers of NBCRDC I in Gen. Tinio, Nueva Ecija and NBCRDC II in Maaybalay, Bukidnon were able to produce a total of 147,919 semen straws for the program.

Likewise, to help fisherfolk associations, fish farmers and local government units (LGUs) increase and enhance productivity, the Bureau of Fisheries and Aquatic Resources (BFAR) produced some 236.34 million pieces and distributed 174.44 million pieces of fingerlings. To continuously produce and provide quality fingerlings, the Bureau also maintained 432,725 and distributed 5,280,132 pieces of quality broodstock.

## Market Development Services

The Agribusiness and Marketing Service (AMAS) continued to develop partnership mechanisms with producers, traders, exporters, importers, investors, entrepreneurs, local government units and other DA operating units to promote Philippine agriculture and fishery products and agribusiness investments locally and globally.

In 2016, DA, through AMAS, facilitated participation in twenty-one (21) international and twenty-seven (27) local trade events to showcase various agricultural and fishery products. Below are some of the best-selling products reported by participating companies:

**Banana Chips and Dried Mangoes.** Participation in Food and Hotel Asia in Singapore generated booked sales of Php 23.58 million, of which sales from banana chips was Php 2.247 million as reported by AsiaFit, one of the exhibitors. Likewise, during Seoul Food in Korea, banana chips and dried mangoes of Bahaghari Global Food, Inc. were among the best sellers. Booked sales were estimated at Php 14 million. KF Nutri Foods banana chips were also a hit during the Hongkong Food Expo 2016 with over Php 1.9 million reported sales under negotiations.

**Fresh Fruits.** During the Salon International de l'alimentation (SIAL) – ASEAN Manila, a special display was set up to promote regional commodity champions such as banana, mango, pineapple, durian, vegetables and spices, among others. Pangasinan Tropical Fruits reported that spot sales of fresh and processed mangoes and jackfruit amounted to Php 64,000.00 during the annual AGRILINK Trade Show. For locally-conducted fairs at the DA grounds in Quezon City, the Samahang Magsamang Zambales was assisted during the annual Farmers Fishermen Month. Sales of fresh mangoes for the 5-day event amounted to Php 30,000.00.

**Coffee.** During the conduct of the SIAL ASEAN Manila, Hineban's Arabica Coffee reported sales under negotiation of Php 1.9 million with ALD-WLT Enterprise Co., Multi Freight Consolidator System and Silver Pack Enterprises Company. Amarich Marketing, which supplies Canada distributors Corinthian Distributors and AFOD Ltd., also actively promoted Monk's blend coffee during SIAL Canada and Agnlink.

**Coconut Products.** Premium virgin coconut oil, coco sugar, coco nectar and coco vinegar remained among the top sellers in various fairs. In particular, Cocoplus Aquarian reported total sales booked and under negotiation of over Php 38 million from the Seoul Food exhibit.

**Other High Value Crops.** Guyabano products (puree, juices and tea leaf powder) of Purelife Health and Wellness had the most inquiries during the Middle East Natural and Organic Products Expo (MENOPE) in Dubai. Reported sales under negotiation amounted to Php 1,204,896.00. Also, REFMADEV Enterprise reported spot sales of dragon fruit at Php 172,000.00 and booked sales at Php 328,000.00 during MAFBEX held at the World Trade Center in Pasay City.

Participation in the 63rd Manila FAME April and October editions showcased health and wellness products, food as gifts, personal care and spa products, and handcrafted soaps. One of the highlights was the display of local fibers, such as abaca, coco fiber, buri and piña.

There were sixteen (16) exhibitors and nine (9) regular companies during the April Edition. Buyers signified interest in natural fruit jams and virgin coconut oil. Retail sales generated from the event amounted to Php 608,973.50. Booked sales and sales under negotiation, on the other hand, were Php 47,000.00 and Php 470,000.00, respectively.

Meanwhile, twenty-four (24) DA-assisted companies participated in the October Edition of the Manila FAME organized by DTI-CITEM. The actual sales generated during the 3-day event were Php 469,668.65 while the booked sales were Php 65,750.00.

Likewise, AMAS monitored the implementation of 22 Agri-Pinoy Trading Center (APTC) projects located in different parts of the country. APTCs were created as a strategic intervention to effectively address long-standing agricultural and food concerns such as unfavorable prices and unnecessary postharvest losses. Also, they serve as direct marketing hubs for farmers and fisherfolk, thereby minimizing the layers of transactions and resulting in a projected 15 to 25 percent increase in income.

Completed APTCs are now operational and accessible to more than 9,000 farmers. There are currently 11 more APTC projects worth 4.5 million at various stages of development in strategic areas of the country.



APTC	Cost	Status
Benguet APTC	P656.00 million	Completed and Operational
Isabela Multi-Commodity APTC	P121.30 million	Completed and Operational
Nueva Vizcaya Agricultural Terminal Marketing System and Support Facilities Upgrading Project	P55.40 million	Completed and Operational
Regional Organic Trading Center, Nueva Vizcaya	P18.00 million	Completed and Operational
Pangasinan APTC	P29.27 million	Completed and Operational
Nueva Ecija APTC	P77.62 million	Completed and Operational
Quezon Corn Trading and Processing Center	P28.19 million	Completed and Operational
Camarines Norte APTC	P44.23 million	Completed and Operational
Bohol APTC for Livestock Project	P22.20 million	Completed and Operational
Dalaguete APTC, Cebu	P17.56 million	Completed and Operational
Siargao Islands APTC	P29.63 million	Completed and Operational
Batangas Agri-Pinoy Livestock and Trading Area	P187.20 million	Ongoing
Candon City Slaughterhouse and Trading Center	P13.53 million	Ongoing
Tayug Municipal Slaughterhouse and Trading Center	P13.40 million	Ongoing
Sta. Ana APTC for Marine Products	P16.52 million	Ongoing
Tabaco City APTC for Marine Products, Albay	P18.40 million	Ongoing
Davao City APTC	P70.00 million	Ongoing
Marketing Assistance and Logistical and Mechanization Support to Smallholder Corn farmers Exports of Corn Silage Feed to South Korea	P45.03 million	Preconstruction/Planning Phase
Lucena City "AA" Slaughterhouse and Trading Center	P32.80 million	Preconstruction/Planning Phase
Puerto Princesa City APTC	P50.00 million	Preconstruction/Planning Phase
Northeastern Leyte APTC	P32.50 million	Preconstruction/Planning Phase
Pagadian City Slaughterhouse and Trading Center	P19.21 million	Preconstruction/Planning Phase

Table 10. Status of APTCs

Source. DA-AMAS

The AMAS, serving as the DA focal unit in implementing the provisions of the Price Act, conducted regular price monitoring on selected agricultural commodities. Twelve (12) wet markets and seven (7) supermarkets were covered in Metro Manila. Commodities included in the regular price monitoring were rice, fresh fishes, meat and poultry, vegetables, fresh fruits, cooking oil, and sugar.

### **Extension, Education, and Training Support Services**

The Department, through the Agricultural Training Institute (ATI), its apex agency in agricultural extension, provided extension, education and training support services nationwide through the regional network of training centers. A total of 75,322 individuals or 99% of the total target for 2016 benefitted from the trainings provided by ATI.

Also, through ATI's e-learning program, 50 online certificate courses on various agriculture and fisheries topics were offered at the e-Learning website. The platform catered to a total of 8,566 enrollees, of which 7,078 successfully completed the courses.

Some 26 158 queries on agriculture and fisheries technology were answered through the Farmers' Contact Center (FCC). The FCC also sent 110 messages or techno-tip broadcasts to 263,083 recipients, via short message service or text messages.

In addition, 649 220 Information and Education Communication (IEC) materials were reproduced and distributed to the Training Centers, Farmers' Information and Technology Services (FITS) Centers and different partners and stakeholders.

Twenty (20) School-on-the-Air (SOA) programs were broadcast, benefitting some 10 957 participants. The SOA program serves as a form of distance learning that discusses a complete package of technology for a specific commodity and other agriculture and fisheries related subject matter. The ATI has been implementing this program in collaboration with the Office of the Provincial and Municipal Agriculturists and local radio stations.

ATI's extension interventions for the underprivileged reached out to 8 112 beneficiaries. These marginalized groups include rural men and women, PWDs, Ps, rebel returnees, and rural youth from areas at risk to climate change and the poorest and most vulnerable provinces—mainly those from the 4th to 6th class municipalities.

### **Research and Development (R&D)**

Increasing productivity, production and competitiveness requires appropriate technology development. Efforts on R&D must be responsive to the needs of the agriculture and fishery sector and be at the forefront of its modernization. Below are some of the technologies and innovations developed this year.

**Rice Crop Manager (RCM).** RCM is a web-based decision support tool developed to increase yield and income of rice farmers in the Philippines. It operates through the use of a "calculator" which automatically generates recommendations on crop and nutrient management based on current practices of farmers and environmental condition of farms. For 2016, a total of 355 414 RCM recommendations were provided to farmers.

Field research in Phase 1 of the project reported an average increase in yield of 370 kg/ha following recommendations from RCM. This corresponds to an average increase in income of Php 4 337.00 per hectare per rice crop.

Now on its 2nd phase, RCM is being upgraded to an Advisory Service which will be complemented by additional tools. These upgrades will further enhance the farming advice and recommendations provided to farmers. Some of the features of RCM are the following:

- Text message (SMS) information service which automatically provides farmers with information and rice-farming advice;
- Farmer and field registration, to facilitate record keeping and the use of field records to improve future recommendations;
- Determination of field area and boundaries using GPS, which enables farmers to adjust the amount of inputs to the actual size of a rice field;
- Farmer ID maker, which provides farmers with an ID card to facilitate access to personalized rice-farming information; and
- Monitoring of RCM farmers, to determine farmers' uptake of recommendations.

**Water-efficient and risk mitigation technologies for enhancing rice production in irrigated and rainfed environment (WATERice).** WATERice is a new project launched in 2016, aiming to increase production and reduce inputs through the development, dissemination, and adoption of appropriate crop management technologies in both irrigated and rainfed rice ecosystems.

It features the automated tool AutoMonPH using the alternate wetting and drying (AWD) principle to guide farmers, irrigation associations and extension personnel in irrigation scheduling. By the end of Year 1, IRRI and PhilRice had developed and tested the sensor and are currently developing the tool's transmission.

**Corn Germplasm Utilization through Advanced Research and Development Program (CGUARD).** Implemented under the National Corn Program, CGUARD was created with the following objectives:

1. To explore uncollected native corn varieties in different regions of the country
2. To preserve and characterize the germplasm collection for agronomic response to different environmental stresses – biological (diseases and pests), edaphic (soil acidity and salinity and poor soil fertility) and physiological stresses (drought and waterlogging) as well as their nutritional features; and
3. To protect our local novel corn genetic resources using modern R&D tools

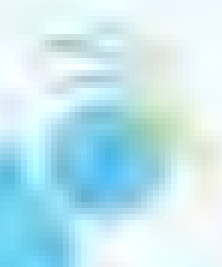
As of November 2016, the CGUARD partner regions had collected 1,875 native corn varieties from different areas in the Philippines. The breakdown of collections per region is listed hereunder:

Region	Collection	Source Province
CAR	183	Abra, Kalinga, Mountain Province, Ilocos Sur, Benguet
I	53	Ilocos Sur, Pangasinan
2	27	Isabela, Cagayan, Batanes, Nueva Vizcaya, Quirino, Batanes
3	22	Aurora, Batangas, Pampanga, Zambales, Nueva Ecija
4A	123	Cavite, Batangas, Quezon
4B	105	Romblon, Oriental Mindoro, Occidental Mindoro, Palawan, Marinduque
5	241	Camarines Sur, Masbate, Albay
6	598	Aklan, Antique, Capiz, Iloilo, Guimaras, Negros Occidental
7	56	Camotes Island, Cebu, Siquijor, Negros Oriental, Bohol
8	30	Leyte
9	174	Zamboanga Sibugay, Zamboanga Del Norte, Zamboanga Del Sur
10	23	Bukidnon, Camiguin, Misamis Occidental, Misamis Oriental
11	70	Davao Del Norte, Davao Del Sur, Davao Oriental, Compostela Valley, Davao City
12	77	South Cotabato, North Cotabato, Sultan Kudarat, South Cotabato
13	93	Agusan Del Sur, Agusan Del Norte, Surigao Del Sur, Surigao Del Norte
Total	1,875	

Table 11. CGUARD collection per region

**Tilapia Ice Cream and Tilapia Cookies Technology Enhancement and Commercialization.** Implemented under the National Technology Commercialization Program (NTCP) of the BARC, the said project resulted in the creation of various tilapia products that include the Gold Medal awardee Daerrys Tilapia Ice Cream.

The tilapia ice cream was selected among 350 exhibitors from 25 countries during the Salon International del Agroalimentaire (SIAL) ASEAN Manila 2016. Developed by Professor Dana D. Vera Cruz and Dr. Tereso A. Abeja of the Central Luzon State University (CLSU), it consists of a line of flavors including tilapia ice cream with tilapia praline, tilapia ice cream sans rival, and tilapia ice cream with tilapia cookies. Tilapia cookies are also available in thin pan tilapia cookies, tilapia cookies with tomato jam, and tilapia hermits dipped in lemongrass-pandan chocolate.



Prof. Vera Cruz attributes a major part of the ice cream's success to the bureau. According to her, "It is really DA-BAR which supported the commercialization of tilapia products under our R&D activities that started way back in 2002 continuing until now with the development of more product lines."

**Adoption and Utilization of Nipa Palm Sugar Processing Technology (NPSPT).** This project intends to expand the selection of nipa palm-based products in Lanuza, Surigao del Sur. Specifically, it seeks to improve the nipa palm sugar product of the community, provide livelihood opportunities, and contribute to mangrove rehabilitation and protection. Components of the project include organizing innovative sap processing technology training, product packaging and labeling, and market linking.

The project is headed by the Foundation for Rural Enterprise and Ecology Development of Mindanao (FREEDOM) Inc. in partnership with the Sitoripi Wine Makers Association (SIWA) and the Municipality of Lanuza.

## Irrigation Network Services

The DA continues to develop, implement, and provide appropriate irrigation facilities to ensure that farmers can continuously produce crops from their farms. Increased production and quality yield mean more produce for the farmers to sell in the market at a higher price, resulting in additional profit.

The National Irrigation Administration (NIA), a government agency that provides irrigation services to the farmers, was previously led by the DA, but was transferred to the Office of the President in May 2014. NIA constructs and rehabilitates areas that are classified as national irrigation systems while DA covers communal irrigation systems.

Altogether, DA has constructed and rehabilitated a total of 2,378 SSIPs, producing 7,634 hectares of new irrigated area and 2,410 hectares of restored irrigated area in addition to the 1,137,487 hectares irrigated by the NIA.

PROGRAM	NO OF PROJECTS	SERVICE AREA (ha)	
		Generated	Restored
National Rice Program	1,155	4,667	2,410
National Corn Program	537	628	
High-Value Crops Development Program	686	335	
<b>TOTAL</b>	<b>2,378</b>	<b>7,634</b>	<b>2,410</b>

Table 12. SSIPs constructed under DA Banner Programs

Source: DA's Budget Accountability Report (BAR) No. 1 for 2016

## Farm-to-Market Road Network Services

Road networks play a vital role in the productivity of the agriculture and fisheries sector. Farm-to-market roads (FMRs) facilitate a faster exchange of products between farms and markets, and reduce postharvest loss. These, in turn, are expected to increase farm gate prices, lower consumer prices through reduced marketing costs, and increase farmer income.

The DA is mandated under Republic Act (RA) No. 8435 or the Agriculture and Fisheries Modernization Act (AFMA) of 1997 to lead all efforts in the coordination, identification, and construction of FMR projects. Through the Farm-to-Market Road Development Program (FMRDP), the Department works together with the Local Government Units (LGUs) and the farmer and fisherfolk communities in identifying the ideal locations to implement FMR projects. These identified projects are funded under the DA and are coordinated with the Department of Public Works and Highways (DPWH) for construction or rehabilitation. This process enables the swift and efficient construction and completion of the proposed projects.

For 2016, the DA allocated Php 7.37 billion for the construction or rehabilitation of FMR projects under the FMRDP. The efforts resulted in the completion of 405.46 kilometers of FMRs out of the targeted 737.72 kilometers. Also, FMRs funded under special projects like the Locally-Funded Projects (LFPs) and Foreign-Assisted Projects (FAPs) were completed within the year. The LFPs constructed or rehabilitated 70.19 kilometers of FMRs while 107.10 kilometers were constructed or rehabilitated under the FAPs. In total, 582.75 kilometers of concrete FMRs were completed in 2016 (Table 8).

PROGRAM	COMPLETED (km)
FMR Regular Program (FMRDP)	405.46
Locally-Funded Projects (LFPs)	70.19
SOCSKSARGEN	44.11
Quirino CSMP	22.76
N. Vizcaya CSMP	3.32
Foreign-Assisted Projects (FAPs)	107.10
CHARMP 2	41.07
PRDP	63.09
SELAP 2	2.94
<b>TOTAL</b>	<b>582.75</b>

Table 13. Completed FMRs as of December 2016

## Agriculture and Fisheries Equipment and Facilities Support Services

The Department continues to provide selected equipment and facilities to farmers and fisherfolk to gain higher productivity and production, reduce postharvest losses and add value to produce.

This year, DA distributed a total of 4,197 units of farm production-related machinery and equipment and 19,014 units of postharvest equipment and machinery. Likewise, DA, through its operating units, established a total of 1,077 production and postharvest facilities. These include 346 fertilizer composting facilities, 118 multiplier farms, 94 rain shelters, 167 drying facilities, 2 processing plants, and 7 storage facilities, among others.



## Agriculture and Fishery Regulation Services

The Department's Regulatory Services achieved significant accomplishments this year, the foremost being the lifting of suspension imposed by China on Philippine banana and pineapple exports. China, one of the biggest markets for Philippines' banana and pineapple, began to issue Notifications of Non-compliance from its General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) due to the interception of quarantine pests - Gray Pineapple Mealybugs (*Dysmicoccus neobrevipes*). This resulted in the temporary suspension of 29 banana and 3 pineapple exporters.

Upon an invitation from the DA, through the Bureau of Plant Industry (BPI), AQSIQ experts visited the Philippines last September 18-26, 2016 to evaluate the implementation by the suspended exporters of corrective measures to address the presence of quarantine pests. This evaluation resulted in recommendations to add an additional step of washing the fruits before packing and to practice proper labeling for traceability.

The Philippines was recognized as a country free from African Horse Sickness (AHS) by the World Organization for Animal Health (OIE). The recognition was awarded during the 84th General Session of the World Assembly of OIE Delegates held May 22-27, 2016 in Paris, France. The freedom from AHS is the 3rd disease-free recognition received by the country from OIE following those on Foot and Mouth Disease (FMD) without vaccination and Peste des Petits Ruminants (PPR) which were awarded in 2015.

In 2016, efforts to eradicate rabies, a deadly disease infecting both animals and humans, were strengthened. Since 2008, 38 areas have been declared as rabies-free. Aside from this, 37 Best Implementers of the Rabies Program were awarded through the funding of the World Organization for Animal Health (OIE)-BAI-Stop Transboundary Animal Diseases and Zoonoses (STANDZ) Rabies Project. These achievements were made possible through the vigilant monitoring activities and regular meetings conducted by DA-BAI in partnership with the Regional Field Offices (RFOs), Local Government Units (LGUs), and industry stakeholders.

Moreover, the DA successfully addressed a major challenge faced by the poultry sector with the outbreak of Newcastle Disease (ND) specifically in Luzon areas. To control the outbreak of ND, Special Orders (DA SO Nos. 353 and 372 series 2016) on the creation of Regional Quick Response Teams (RQRTs) were issued to provide immediate response to reports of animal disease occurrence and emergencies in the regions.

Members of RQRTs, Regional Veterinary Quarantine Officers and BAI staff were oriented on their duties and responsibilities in the occurrence of disease events and emergencies and principles in disease investigation, outbreak management, and risk communication.

A total of 1,949,200 doses of the ND vaccine were distributed to regions, provinces, municipalities and cities. Animal quarantine checkpoints located in Regions CAR-I and II were also re-activated and operated for 2 months to control the movement of poultry, poultry products and by-products. Private stakeholders showed their support by setting up checkpoint barriers and signage.

## **Credit Support Services**

For 2016, nine (9) new credit facilities were opened by the Administration under the Agro-Industry Modernization Credit and Financing Program (AMCFP) of the Agricultural Credit and Policy Council (ACPC). AMCFP serves as the umbrella financing program for agriculture and fisheries. It aims to provide credit assistance to small farmers and fisherfolk and agro/fishery-based small and medium enterprises (SMEs). The following are the credit facilities under AMCFP:

**Program for Unified Lending to Agriculture (PUNLA).** PUNLA was launched last September 8-9, 2016 during the visit of Secretary Piñol to Catarman, Northern Samar and Borongan, Eastern Samar, respectively. It aims to address the financial needs of marginal farmers and fisherfolk for fast, convenient and affordable credit, to strengthen delivery of agricultural credit, and to increase outreach to more small farmers and fishers. The program is grounded on four (4) strategic pillars - (i) Make credit access easy and convenient; (ii) Bring down interest rates; (iii) Expand credit delivery channels; and (iv) Ensure sustainability of credit.

**Agriculture and Fisheries Financing Program (AFFP).** AFFP provides loans to farmers and fisherfolk engaged in the production of coconut, sugarcane, high-value crops, livestock, and fisheries and registered in the Registry System for Basic Sectors in Agriculture (RSBSA). This program started in February 2014 in support of DA's self-sufficiency program.

**Calamity Assistance Program (CAP).** CAP started in 2013 directing government-owned and controlled corporations (GOCCs) and government financing institutions (GFIs) to grant financing assistance to typhoon-affected farmer borrowers. It extends a moratorium on the payment of outstanding loans and provides interest-free loans to individuals affected by calamity.

CAP finances agricultural production activities or other income-generating projects of affected farmers or fisherfolk to help them recover from calamity.

**Climate Change Adaptation Financing Program (CCAFP).** CCAFP is a pre-disaster intervention which aims to help agricultural households cope with the adverse effects of climate change. Loans are extended to eligible farmers and fisherfolk-borrowers who will adopt DA recommended climate change adaptation practices and technologies. It complements CAP which as a post-disaster quick response mechanism for the recovery and rehabilitation of agricultural households affected by extreme weather event and calamities.

**Sikat Saka Program (SSP).** SSP is an integrated financing program jointly implemented by DA, LandBank, ATI, National Food Authority (NFA), PCIC and ACPC. It provides financing for the palay production of small farmers through irrigators' associations (IAs). The program started in 2012 with an initial funding of Php 20 M. For 2016, SSP was expanded to corn farmers from 9 provinces, namely Cagayan, Isabela, Nueva Viscaya, Nueva Ecija, South Cotabato, Sultan Kudarat, Bukidnon, Lanao del Norte, Misamis Oriental and Misamis Occidental.

**Cooperative Banks Agri-Lending Program (CBAP).** Under CBAP, ACPC provides Php 300 M credit fund to 13 partner cooperative banks in form of loans. It covers small farmers and fisherfolk registered under RSBSA as provided under the 2015 GAA.

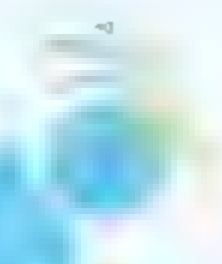
**Value Chain Financing Program (VCFP).** The Value Chain Financing Program or VCFP is another partnership of ACPC with FIs which provides credit to small farmers who are part of an agribusiness value chain. Its main objective is to improve small farmers' productivity in terms of quality and quantity and thus increase their capacity to meet market requirements. Initial funding of the program amounts to Php 50 M intended for financing requirements of corn in the provinces of Zamboanga del Norte and Bukidnon.

**Agricultural Microfinance Program (AMP II).** AMP is a joint program of ACPC and the People's Credit and Finance Corporation (PCFC) for the provision of credit to qualified borrower organizations for relending to small farmers and fisherfolk households and groups/organizations. The program aims to reduce poverty and improve the quality of life of marginalized farmers and fisherfolk by financing agricultural projects and activities that will increase their productivity and incomes. However, it was pre-terminated in September 2016.

**Agrarian Production Credit Program (APCP).** The Agrarian Production Credit Program or APCP is a jointly implemented program by the DA, the Department of Agrarian Reform (DAR) and LandBank. The program caters to Agrarian Reform Beneficiaries (ARBs) whose organizations are not yet eligible to avail of loans from LandBank. It aims to achieve sustainable crop production and increase the incomes of agrarian reform beneficiaries (ARBs) and their households through the provision of credit and capacity building assistance.

Through these credit facilities, more than Php 3.1 B in loans were released to 48,738 small farmers and fisherfolk. On a cumulative basis, loans granted under the same credit facilities and terminated/completed programs reached P12.831 B with 308,277 SFF borrowers. Below is a summary of the loans released with the corresponding number of borrowers by credit facility.

Likewise, the Philippine Crop Insurance Corporation (PCIC) paid farmers and fisherfolk P1.6 Billion for damages to their standing crops and properties caused by the E. Niño phenomenon and several typhoons and flooding that occurred in 2016. It was the second time that PCIC expended indemnity payment at the billion-peso level. The indemnity payment was 16% more than the P1.379 Billion paid in 2015. The payment allowed 186,927 farmers and fisherfolk to restart their operations after farm damage, minimize financial losses and prevent significant disruption in the supply of food in the market.



Credit Facility	2016		Cumulative as of Dec 31, 2016	
	Loans Granted (in million Php)	No. of SFF Borrowers	Loans Granted (in million Php)	No. of SFF Borrowers
PUNLA	79.0	4,187	79.0	4,187
AFFP	188.8	1,955	308.2	3,186
CAP	0.	47	58.9	5,924
CCAFFP	(no releases yet)	(no releases yet)	(no releases yet)	(no releases yet)
SSP	1,861.8	6,405	4,020.0	25,343
CBAP	135.7	2,234	290.0	4,015
VCFP	36.0	347	44.3	383
AMP II	514.1	21,763	719.5	38,952
APCP	303.1	1,800	683.3	7,886
Other Terminated/ Completed Programs	-	-	6,528.5	218,401
<b>Total</b>	<b>3,118.6</b>	<b>48,738</b>	<b>12,831.7</b>	<b>308,277</b>

Table 14. Summary of loans released by credit facility

Source: ACPC

These farmers and fisherfolk were among the 1,102 Million insured by the PCIC for this year. Collectively, the insured farmers operated 907,147 hectares, an expansion of 6.04% from the total farm area of 855,504.53 hectares covered by PCIC's services in 2015.

## Notable Accomplishments of the DA Operating Units

### Regional Field Offices

The Department's Regional Field Offices (RFOs) serve as front liners in the implementation of DA programs and projects. They play a vital role in achieving the Department's goals, executing its thrusts and priorities, and implementing DA programs and projects.

#### RFO-CAR (Cordillera Administrative Region)

**High Yield Technology Adoption (HYTA).** After three consecutive seasons of implementation which commenced during Wet Season 2015 (March 16 – September 15, 2015) to present (Dry Season 2016 – 2017), the HYTA Project already has 201 institutional Partners (IPs) in Rural Based Farmer Organizations, including Irrigators Associations (IAs) and other farmers' organizations with legal personality. Using the Grant-Recover-Rollover Scheme, these IPs accumulated a substantial amount to make them financially empowered, with at least six (6) able to collect more than a million pesos. Some IPs use a portion of their collected roll-over funds to pay for the 15% counterpart required for machineries (e.g. Mechanical Rice Transplanter, 4-Wheel Tractor, and Combined Thresher Harvester) provided by the Department.

The collection rate for the region averaged at 73%. IPs from the Province of Apayao hold the bulk (64%) of the collected fund, indicating that most of the financially empowered IPs are found in the province.

## **RFO I (Ilocos Region)**

**Agricultural production.** Region I showed an enduring comparative advantage in the sector as it is ranked first in the production of mango, garlic, tomato, eggplant, peanut, and mung bean, and second in onion production. There were also surpluses in production in all high value commodity food crops – the fruits, vegetables, legumes and root crops. The sufficiency levels of these food crops are more than 100% due to the increase in production with the Food Staple Sufficiency Program in the region.

**18th National Mango Congress.** RFO I, together with the Philippine Mango Industry Foundation Inc. (PMFI), the Provincial Government of Ilocos Norte (PGIN) and Ilocos Norte Federation of Mango Producers Association Inc. (INFMPA), successfully hosted the 18th National Mango Congress held at Plaza del Norte Convention Center, Laoag City, Ilocos Norte with a total of 700 participating stakeholders from different regions. This year's theme was "Seizing Climate Change Opportunities for the Mango Industry and Breaking down Market Menace through Empowered Mango Stakeholders Associations Backed by Sustainable Policies and Strategies." Major stakeholders shared interventions, experiences, practices, and latest technologies in the mango industry.

## **RFO II (Cagayan Valley)**

**Response to calamities.** Cagayan Valley is one of the regions adversely affected by calamities like typhoons and drought. RFO II was able to respond quickly and efficiently to support the rehabilitation of typhoon-affected and other calamity-stricken areas region-wide. Buffer stocks of quality seeds and other planting materials, and a pool of farm machinery were available for quick response.

All five provinces in RFO II have a research center or experiment station equipped as Disaster Risk Reduction and Management (DRRM) operation centers, manned 24/7 during calamities. These centers have warehouses and cold storage for seeds, and planting materials, as well as animal houses. Alternative power sources are also available for continuous operation.

**Efforts on Organic Agriculture.** For the Organic Agriculture Program, DA Nueva Vizcaya Experiment Station located in Bagabag, Nueva Vizcaya was certified as an organic vegetables/seed and organic OPV corn seeds producer by the Organic Certification Center of the Philippine (OCCP).

The Intellectual Property Office (IPO) issued DA RFO I, with a product certification for an organic biodewormer. The product is now mass-produced and used to control parasitic infection in small ruminants in the region.

Also, in recognition of her exemplary accomplishments and involvement in organic agriculture, Ms. Marina A. Acebedo was awarded Most Outstanding Regional Organic Agriculture Focal Person during the 13th National Organic Agriculture Congress held at Plaza Del Norte, Laoag City, Ilocos Norte.

**Establishment of Nucleus Farms.** With RFO support, Cagayan Valley is the only region with established well-developed and fully operational nucleus farms. This enabled the production of 51 genetically superior meat goats, 111 dairy goats and 29 elite sheep within the year. From previous stocks produced, 82 goats, 131 sheep, and 20 cattle were distributed to farmer-beneficiaries for the year.

## **RFO III (Central Luzon)**

**Palay Production.** Region III lived up to its reputation as the "Rice Granary" of the country. It was another banner year for rice production, boosted by the campaign of the Department in frontloading the farm mechanization program. The region was able to produce 3,342,883 metric tons of rice (palay) out of the 704,185 hectares area harvested (PSA Data), attaining an average yield of 4.75 mt/ha and a 138% sufficiency level. Production in year 2016 was 1.17% (or 38,573 MT) higher than 2015's 3,304,310 MT, contributing 18.96% to the national production in support of the Food Staple Self-Sufficiency Program.

**National Quality Corn Achievers Awards.** RFO I received numerous awards in the recently concluded National Quality Corn Achievers Awards which recognizes the exemplary contribution of Local Government Units (LGLs) and Agricultural Extension Workers (AEWs) in the promotion of health and safety in the corn industry. Namely, 5 Outstanding Municipality, Municipal Agriculturist and Municipal Corn Coordinators and 11 Outstanding AEWs were awarded. Cuyapo, Nueva Ecija and 2 AEWs received the Hall of Famer Awards for winning for three consecutive years.

**Interventions to Strengthen Livestock and Poultry.** Since Central Luzon excels in livestock and poultry production, RFO II continuously strengthens its Livestock Program through the implementation of various projects/activities.

Funds amounting to Php 8,250,000.00 from the Livelihood Assistance Program were used to purchase 150 head of Carabaos, 140 head of cattle, and 200 head of goats, which were distributed to 446 beneficiaries in 7 provinces of the region.

Under the Animal Product and By-Products Utilization Program, some 23 Meat Processing Demonstration Seminars were conducted with 805 participants. Another one hundred-sixty (160) participants joined the seven-month long season training for goat raisers under the Farmers Livestock School on Goat Enterprise Management (FLS-GEM) held in Bulacan, Bataan, and Zambales.

Livestock and Poultry Information and Early Warning System (LPIEWS) was also implemented continually, obtaining reliable data and information on breeder, chicken meat and pork importation to assess the situation and outlook of supply, demand, and price of livestock and poultry products.

## **RFO CALABARZON**

**Support to Coffee Farmers.** The provinces of Cavite and Batangas were the main recipients of 722,500 pieces of Robusta and Liberica seedlings procured to replace damaged coffee trees, or to be planted in open areas or under coconut trees. These provinces also have the largest share of total area planted with coffee. Likewise, they have the biggest share in fertilizer assistance for aging trees targeted for rejuvenation.

**Organic Agriculture Congress.** The Regional Organic Agriculture Program conducted its 2nd Regional Organic Agriculture Congress held in Sta. Cruz, Laguna participated in by three hundred eighty (380) individuals (230 female and 177 male), from CALABARZON. The region was given numerous achievers awards during the event, namely – Provincial Focal Person, Outstanding Municipality/City, Outstanding LGU Extension Worker, Outstanding Municipal Focal Person, Outstanding Small Farmer, Individual Outstanding Small Farmer, Family, and Outstanding Small Farmer Group.

## **RFO MIMAROPA**

**Priority commodities.** With its relevant role as a food basket of Metro Manila and CALABARZON, the MIMAROPA Region continued to produce significant volumes of major staples and agricultural commodities such as rice, corn, saba banana, calamansi, cashew, onion, garlic, arrowroot, cassava, coconut and seaweeds. Oriental Mindoro remained the top national producer of calamansi, Palawan stayed the top cashew nut producing province and Occidental Mindoro, the 2nd largest red onion producing province in the country.

**Diverse Fishing Grounds.** As an atoll-island province, various marine products abound in the fishing grounds of Mogpog Pass, Tablas Strait, Honda Bay, Cuyo Pass, Malampaya Ground, and the Mindoro Strait, which is one of the migratory pathways for the country's most valuable yellow fin tuna. Palawan is the top producer of fresh and dried seaweeds in the country today.

**Fight against Rabies.** In 2016, the two (2) island municipalities of Romblon (San Jose and Romblon) were declared as Rabies-Free Zones. The province of Marinduque was recognized as one among the

**37 Best LGU Implementer of the Rabies Program For Rabies-Free Philippines Vision for Year 2020** the RFO, in continuous partnership with LGU veterinarians, supports the M-MAROPA Initiative: Free Spay and Neuter of Dogs and Cats. A total of 755 dogs and cats were spayed and neutered in the provinces of Occidental Mindoro, Oriental Mindoro & Romblon.

### **RFO V (Bicol Region)**

**Shift to Hybrid Seeds.** The implementation of High Yielding Technology Adoption (HYTA) Technology Demonstration and the initial implementation of Rice Productivity Enhancement (RIPE) Program in major producing municipalities encouraged rice farmers to shift from Certified Seeds to Hybrid Seeds utilization thereby optimizing farmers' productivity. Rice farmers were also encouraged to practice precision fertilization and to utilize soil ameliorants.

**National Rice Technology Forum.** The successful management of the National Rice Technology Forum in a 20-hectare compact Techno Demo of Hybrid Rice in Albay showed that rice sufficiency could be attained through hybrid technology. It is hailed as the biggest techno-demo farm in the country today. More than 1,500 stakeholders attended the event. There were 14 hybrid rice and 11 inbred (300 series) varieties in the techno-demo farm. The hybrid rice varieties included TH 82 of US Agri Seeds, Bigante Plus of Bayer Philippines, SL 12 and SL 18 of SL Agritek, PhD 77 and 79 of Pioneer Dupont, S6003 and NK5017 of Syngenta, Mestiso 19 of PhilRice, and Chinese Hybrid Rice Lomping of PhilScat. This is also the first hybrid rice demo-farm for wet season and the first in the Bicol Region.

**Organic Agriculture Program.** To sustain, strengthen and stimulate further the conversion of traditional farms into organic farms, the Organic Agriculture Program continued distributing traditional rice seeds, OPV corn seeds, vegetable seeds, Bio-N, African night crawlers, and organic fertilizers, benefitting some 140 farmers this year. In addition, 12 organizations became recipients of composting facilities. Also, seventy-five percent (75%) of the entries of the RFO in the Search for Organic Agriculture Achievers Awards were national finalists, and the Agri-Planters and Food Processors Association of Tigaon (TAPFPAT) – Group Category was awarded as the National winner and received a plaque of recognition and a check amounting to P500,000.00 as project grant.

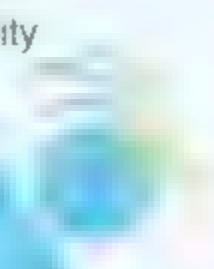
### **RFO VI (Western Visayas)**

**Establishment of Seed Production Areas.** To ensure availability of high class seeds for distribution to seed growers and farmers for techno-demo and varietal trial purposes, RFO VI established sixteen (16) hectares of seed production at WESVIARC, Jaro, Iloilo City for wet season 2016. A total of 1,954 bags of fresh palay were harvested from WESVIARC, and is currently undergoing postharvest processing and seed certification.

**Seed Distribution.** The RFO distributed 10,500 kilograms of mung bean seeds, broken down into 250 kg for the province of Aklan, 200 kg for the province of Capiz, 4,500 kg for the province of Antique, 4,200 kg for the province of Iloilo, 1,200 kg for the province of Negros Occidental, and 150 kg for the province of Guimaras.

RFO VI also delivered 3,780 kilograms of peanut seeds broken down into 100 kg for the province of Antique, 880 kg for the province of Aklan, 140 kg for the province of Capiz, 40 kg for the province of Guimaras, 600 kg for the province of Negros Occidental, and 2,020 kg for the province of Iloilo through the Office of the Provincial Agriculturist for distribution to the identified farmer beneficiaries. There was also a delivery of 6,500 kilograms of ginger and assorted vegetable seeds.

**Soil Fertility Mapping.** Massive soil sampling was conducted in the province of Capiz for the updating of soil fertility mapping. There were 1,051 soil samples collected from different municipalities out of 1,399 samples targeted. The analysis of these samples is ongoing for data interpretation into maps. The RFO also assisted in the implementation of the National Soil Sampling and Testing for Fertility



and Crop Suitability Assessment in the provinces of Aklan, Antique, and Negros Occidental. This is a nationwide project by the BSWM to prepare color-coded guide maps on soil fertility and crop suitability. The soil samples were analyzed using the soil test kit method.

### **RFO VII (Central Visayas)**

**Production of NCD Vaccines.** Of all the veterinary laboratories of the Department of Agriculture, only RFO VI produces the inactivated Newcastle Disease (NCD) Vaccines. LGUs in Bohol, Negros Oriental & Siquijor, PCARRD Native Chicken Project in Ubay Stock Farm, Zamboanga State University and Bicol State University have been using the produced inactivated Newcastle vaccine for the prevention and control of NCD in native chicken production. The Vaccine Production Laboratory of RFO VII is registered by the Bureau of Animal Industry as Veterinary Biological Manufacturer, renewable every two years, and NCD vaccine produced by the facility is also registered as a Veterinary Biological Product.

**Conservation of Native Animals.** RFO VI showed remarkable support to the Philippine Native Development Program (PNAD). The Ubay Stock Farm located in Brgy. Lumangog, Ubay, Bohol developed the Boholano native chicken strain described as having light to dark red plumage color as female and red to tubaon as rooster, yellow shank, white skin, single comb, red white earlobes and orange iris. The female has a mature weight of 1.12 kg and lays light brown eggs at 22 weeks with an annual average of 78 pieces. The mature male weighs 1.33 kg at 22 weeks with 27.50 cm height, 20.40 cm body length, 28.20 cm chest circumference, 42.64 cm wing span and 11.20 cm shank length. The breed is well adapted to local climatic conditions with climate resilient character. The farm recommends that the breed be mass produced using a free range system technology with 5 m<sup>2</sup> per bird.

Siquijor native cattle and Central Visayas black native pig breeds are also maintained and bred in this farm to promote their conservation. To conserve and develop the native breed, pigs from Bohol, Cebu, and Negros Oriental were randomly mated for phenotypic characterization, mass produced and distributed to interested producer associations. In the case of Siquijor Native Cattle, some 99% of the total population was determined as elite as per the kappa casein genotype BB, indicating that these native animals at USF are ideal for cheese production.

### **RFO VIII (Eastern Visayas)**

**Production Support Services.** RFO VII focused on providing high quality seeds, high quality planting materials, fertilizers, irrigation facilities, production and post-production machineries and equipment in major production areas. These made significant contributions to the performance of the agriculture sector. The region's total palay production reached 954,844 metric tons with yield level higher in 2016 is at 3.56 mt/ha compared to its year-ago level of 3.47 mt/ha. Corn output was 81,603 metric tons with average yield at 1.43 mt/ha. Total banana production increased from 62,371.72 metric tons in 2015 to 63,328.84 metric tons this year or 1.53% growth.

**Increase Livestock Production.** The RFO set up multiplier farms to infuse quality breeders, provide drugs and biologics and assist in establishing forage and pasture areas in strategic areas. The Samar Island Small Ruminant Enterprise Development Project (SAIS-RED) resulted in an increased goat population inventory by 48.02% with Eastern Samar posting the highest increase of 84.52%.

**Support to Organic Agriculture.** RFO VII facilitated the production and distribution of organic fertilizers and the establishment and maintenance of vermicomposting facilities. A total of 10,085 kilograms of vermicast were harvested and distributed to 107 farmer beneficiaries throughout the region. As of November 2016, a total of 6,431.79 hectares had been converted to organic farms with 6,187 organic agriculture farmer-adopters.

**Priority Area for SAAD.** The Special Areas for Agricultural Development (SAAD) Program was introduced towards the end of the year to support productivity enhancement in the top 10 poorest provinces including Samar, Northern Samar and Eastern Samar. A series of briefings, consultations and workshops were conducted and Php 50 million was initially committed for each province to pursue projects.

### **RFO IX (Zamboanga Peninsula)**

**Rubber Production.** Efforts to increase rubber production were pursued including participation in the multi-lateral clone exchange program among rubber producing countries. The Philippine Rubber Research Institute (PRRI) located in Sanito, Ipil, Zamboanga S. Bugay now maintains 54 clones collected from 8 countries. However, because of low prices of cup lumps, cutting of senile trees and shifting to other high value crops like coffee and cacao, production of rubber in Zamboanga Peninsula declined from 176 771.93 mt in 2015 to 164 413 mt in 2016. Despite this 7% drop, the region contributed 44.40% to the national production of rubber which totaled 398 136.64 metric ton in 2016.

**Support to Organic Agriculture.** RFO IX provided support to the promotion and strengthening of organic agriculture in keeping with goals to make the industry sustainable and competitive in the world market. Based on the reports of the Local Government Units, a total of 29 000 hectares has been converted to organic farming with cassava, calamansi, colored rice, root crops and vegetables as the major organic commodities produced. The municipality of Dumingag, Zamboanga del Sur was the leading municipality in terms of organic farming practitioners. Hence, the Municipality of Dumingag is known and awarded as an "Outstanding Organic Municipality" by the International Federation of Organic Agriculture Movement (IFOAM). A total of 10 000 farmers were reported practicing organic farming in the region.

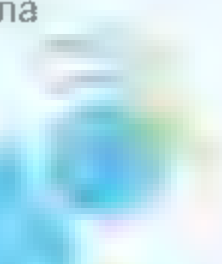
### **RFO X (Northern Mindanao)**

**Rice Crop Manager.** RFO X used a computer based fertilizer recommendation system called Rice Crop Manager (RCM) for rice to increase its yield. The system generated a total of 18,121 rice production recommendations. With the help of the system, production cost was reduced by 20-30% and yield was increased by 20% to 40%. Farm monitoring is done to validate the outcomes of the RCM-generated recommendations. The National RCM review in September 2016 showed Region 10 as top in terms of accomplishments.

**Technologies for Production of Potato Seed.** Using the Rapid Multiplication Technique (RMT) and the micro tuber seed production technique, RFO X produced 28 000 kilograms of quality white potato seeds which were distributed to 55 potato farmers from the region, other neighboring regions and walk-in clients. The RFO is also looking at Aeroponics Technology to enhance white potato seed production and make available quality and disease-free potato seeds to more farmers. These seed production techniques will allow the market to meet the demand for specific table and processing potato varieties.

**Adlay Production and Processing.** DA Northern Mindanao supported the development of the adlay production technology as part of efforts to transform agricultural commodities into food and non-food products and provide alternative livelihood opportunities in the countryside. Some 120 hectares in 12 production sites produced an average seed yield of 30 000 kilograms of adlay. The sites are located in Cabangasan, Maramag, Impasug-ong, Manolo Fortich, Salay, Opol, Clarin, Kauswagan and Kapatagan and involve around 240 farmers.

**Support of Soybean Production.** RFO X established 13 Technology Demonstration sites at Manolo Fortich, Libona, Malaybalay City, Maramag, Sumilao and Pangantucan of Bukidnon, Kauswagan, Lanao del Norte and Gingoog City of Misamis Oriental for the soybean production technology. Farmers in these areas are practicing intercropping of soybean with cassava, palm oil and banana.



The total seed production for wet season is 7 960 5 kilograms and repayment of seeds from farmers is 405 kilograms. It served 16 farmer-organizations and individuals in the region, particularly DAR-CRS and Tulay sa Pag-unlad Incorporated (TSPI).

**Provision of Farm Machineries and Equipment.** DA Northern Mindanao also led the turn-over of agricultural farm inputs and equipment, planting materials, and draft animals worth Php 2.5 million to beneficiaries in Camp Bilal, held in Barangay Panggao, Munai, Lanao del Norte. Two units of corn sheller, one unit of mobile corn mill, and one unit of hand tractor were also distributed.

### **RFO XI (Davao Region)**

**Interventions to Increase Palay Production.** RFO XI distributed a total of 88 200 kilograms of hybrid seeds and 500 00 kilograms of urea fertilizer to cooperating farmers under its High Yielding Technology Adaptation (HYTA) initiative. The RFO also procured about 436 800 kilograms of certified seeds, 20 000 kilograms of good seeds, and 7 000 kilograms of registered seeds for delivery whenever any typhoon or any calamity hits the region. In addition, a two-day orientation on Corporate Rice Farming Program (CRFP) held at Eden Nature Park and Resort, Tori, Davao City, was attended by farmers, organizations, LGUs, and other stakeholders from Mindanao.

**Distribution of High Value Crops Seedlings.** DA Davao also provided 504 470 pieces of coffee seedlings, 3 015 400 pieces of cacao seedlings and 316 350 pieces of rubber seedlings to 290 groups of farmers from identified cluster areas in the region. The seedlings can cover around 7,672 hectares of farmlands.

**Exploring Market Opportunities.** To showcase the region's agri products and to widen market opportunities, RFO XI participated in and funded both local and international market-related activities. These events, promoting the products of different enterprises in the region, generated gross sales of Php 2 446 280 00. Agricultural products featured included fresh fruits, vegetables, spices, ornamentals, herbs, commercial and organic rice, pecking duck, goat, sheep, hot chili variants, snack foods such as vegetable chips, banana chips, durian chips, herbal products such as miracle fruit juice, ginger tea, turmeric tea, guyabano tea, and mangosteen tea, coffee, goat's milk and cow's milk, honey, and coconut byproducts.

Furthermore, DA Davao assisted four (4) industry commodity councils in the region in organizing the following events: 2nd National Vegetable Marketing Summit organized by Vegetable Industry Council of Southern Mindanao (VICSM-n), International Coconut Conference and Coconut 2016 organized by Davao Region Coconut Industry Cluster, Inc., KakaoKonek 2016 organized by Cacao Industry Council of Southern Mindanao (CICSM-n), and 4th Durian Festival organized by Durian Industry Council of Davao City (DICDC). The RFO also facilitated the establishment of the Php 70-million Agri-Pnoy Trading Center (APTC) locally known as Davao Food Terminal Complex with about 38% completion of physical structure in 2016.

### **RFO XII (SOCCSKSARGEN)**

**Mushroom Culture and Cultivation Technologies.** RFO XII conducted a series of on-site training to introduce the package of technology (POT) on mushroom culture and cultivation throughout the region. Different farmer organizations, church-based organizations, Indigenous People's (IPs) organizations, Agricultural Technicians (AT) and on-the-job trainee (OJT) students from the different municipalities and schools in Region 12 were trained for the mushroom culture and cultivation technology procedures. As of the 4th quarter of 2016, the Community-Based Mushroom Production (CBMP) training management staff had already conducted ten trainings in the region with 353 participants, 60 OJTs and 30 Agricultural Extension Workers (AEWs).

**Contribution of High Value Crops to Regional Development.** Banana, mango, pineapple and other high value fruit crop production is giving substantial income to the growers, traders and processors.

in the region due to sustainable local and export markets. In 2016, one of the major breakthroughs for DA-assisted high-value producers is the exportation of 2.5 metric tons of carabao mango, 63 kilograms of banana (lacatan), and 1.5 metric tons of calamansi fruits for Dubai.

To further expand high-value production base, RFO XI programmed massive distribution of planting materials for its priority commodities. DA distributed a total of 1,906,042 pieces of genetically superior planting materials of assorted industrial crops (coffee, cacao, rubber), 9,108 kilograms of assorted vegetables, which were planted in at least 2,517 hectares (industrial crops) and 325 hectares (vegetables) as support to the National Greening Program, Food Staple Self-Sufficiency Program, and Climate Change Mitigation, respectively. DA-RFO 12 allocated Php 68.82 million for these initiatives.

**Efforts on Disease Management.** DA SOCCSKSARGEN strengthened its Animal Health Services through the distribution of veterinary drugs and biologics to Provincial and City Veterinary Offices for the treatment, prevention and control of economically important diseases, and the conduct of animal disease surveillance.

### **RFO XIII (CARAGA)**

**Market Development Initiatives.** DA CARAGA supported the staging of the first ever CARAGA Agricultural Trade and Marketing Exposition (CARAT) 2016 to showcase the agri-aqua products produced by local farmers and entrepreneurs in the region. The event generated total sales of Php 1.8 million and, for the DA CARAGA exhibitors alone, close to half a million pesos (Php 476,559), posting as the top grosser among the participating agencies.

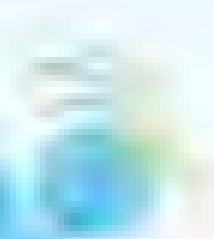
Another significant activity was the "Tabo sa DA" every fortnight. This forged a linkage between rice producers, the Sto. Niño Multi-Purpose Cooperative, and some institutional buyers in Butuan City. This also provided small farmers a direct market for their produce without spending too much on transportation cost and market stall fee. Total sales generated amounted to Php 127,780 in just six months' time starting July 2016.

Also, RFO XIII in partnership with the Local Government Unit of Surigao del Norte and Winrock International officially opened the Php 31 M Agri-Trading Center in Dapa, Siargao, and More than 400 farmers and 14 groups of fishers in eight municipalities of the island are expected to benefit from the project. Fruits, vegetables, root crops and fishery products can now be traded in the center.

**Prioritizing Corn Production.** DA CARAGA has been a consistent awardee of the National Quality Corn Achievers Award. The Provincial Local Government Unit of Agusan del Norte was recognized as Hall of Farmer being the Outstanding Province where the municipality of Prosperidad in Agusan del Sur was declared as Outstanding Municipality. The awarding ceremony concluded the 12th Philippine National Corn Congress in conjunction with the 4th National Quality Corn Achievers Awards at Koronadal City, South Cotabato on November 16-18, 2016.

Furthermore, to help corn farmers attain premium quality in their produce, DA CARAGA turned-over another Village Type Corn Postharvest Processing Center to the farmers through the local government unit of Las Nevas, Agusan del Norte last June 1, 2016. The Village Type Corn Postharvest Processing Center situated in Brgy. Pinana-an is a modern drying and shelling facility worth Php 3.5 million and has a capacity of processing 10 tons of corn per 10-12 hour processing time daily.

**Campaign for Brown Rice.** On its third year of the Be Riceponsible campaign, the Department of Agriculture intensified its promotion throughout the country through a social media propaganda dubbed as the BROWN4good Challenge. To support the campaign, around 800 strong allies in the CARAGA Region were gathered during the regional launching of BROWN4good Campaign last September 7, 2016 held at Father Saturno Unos University Gymnasium, Butuan City. In this event, 25 sacks or 1,250 kilograms of brown rice were given to charities because of the participation of the advocates in CARAGA.



## Bureaus

### Agricultural Training Institute

**ATIng Gulayan ng DA.** To support the efforts on food production the DA through ATI and its partners launched the "ATIng Gulayan ng DA" on October 6, 2016. The project was established to showcase replicable methods and technologies on urban gardening and edible landscaping. Through the establishment of a learning site that complements classroom and community learnings, the initiative also aims to highlight sustainable agriculture in the city. It seeks to transform the surroundings of the ATI Central Office as an edible landscape model that employs intensive and eco-friendly gardening methods which would maximize the use of a limited space. As part of the project, ATI lined up the conduct of training activities and seminars on urban gardening to targeted barangays in key cities of the National Capital Region.

**First Integrated Learning and 4-H Farm Camp.** The ATI inaugurated the country's first Integrated Learning and 4-H Farm Camp at Gabutero Farms in M. Marikina City on July 7, 2016.

Former ATI Director Asterio P. Salot spoke of the significance of the establishment of the said camp: "Our vision here is to promote vibrant, self-sustained and integrated rural agriculture learning. The camp will serve as venue for the youth, particularly members of the 4-H Clubs, to be engaged in a broad range of farming technologies."

The 10-hectare camp houses training halls, dormitories, and areas for small and large ruminants, fish pond, rabbit and rice production, among others. Through the camp, the ATI aims to showcase organic integrated farming system and provide a venue for the development of the youth, farmers, rural-based organizations, IPs, and other stakeholders.

**Big Brother-Small Brother (BBSB) Partnership Extension Scheme**<sup>1</sup>. Through appropriate extension strategies, ATI hopes to maximize the potential of farm tourism by having smart farmers and small farmers engage in the BBSB Extension Scheme. Big brothers are owners of prospective farm tourism sites or those who have the expertise such as Farmer Scientists/Magsasaka Siyentista (MS). Small brothers, on the other hand, are farmers with small size of farms located near or surrounding the farms of big brothers who are either existing or prospective learning site (LS), cooperators or owners.

The BBSB scheme follows ATI's ladderized approach to extension services in accordance with Republic Act No. 10816 or the Farm Tourism Development Act of 2016. It starts with the recognition of farms as LSs and Schools for Practical Agriculture (SPA) which will eventually be developed into farm tourism sites through the provision of technical and financial assistance.

### Bureau of Agriculture and Fisheries Standards

**Philippine National Standards.** To ensure the quality of agricultural and fishery products and services, the BAFS establishes Philippines National Standards (PNS) in collaboration with relevant stakeholders. These standards not only protect workers and consumers, but also increase economic efficiency and ease of trade, and minimize detentions or rejections of our products. Since 2003, a total of 192 Philippine National Standards were developed by the BAFS, covering fresh, primary, and postharvest agri-fishery commodities and agri-fishery machinery, tools, and equipment. Out of this number, 48 were food safety-related standards. In 2016 alone, 24 standards were developed including chilled packaged products from young coconut, organic aquaculture, Halal slaughtering of poultry, and guidelines on after-sales service.

<sup>1</sup> Salot, A. (2014). Big Brother-Small Brother Partnership for agriculture Development: An Extension Model for Farm Tourism.



**Certification Programs: Good Agricultural Practices (GAP) and Good Animal Husbandry Practices (GAHP).** The BAFS recognizes the importance of not only the quality and safety of food but the health and welfare of farmers and animals, and the protection of the environment. To facilitate and ensure compliance with minimum requirements, BAFS provides technical services related to the requirements of on-farm certification programs. This year, a total of 52 farms, covering a total of 314,395 hectares planted with high value commercial crops, rice, and corn, were certified as GAP compliant. In addition, four (4) farms mainly producing poultry and swine were certified as GAHP compliant. The GAHP certified farms cover 688,044 heads with 569,185 Poultry and 118,859 Broiler.

**Laboratory Policy.** The BAFS played an active role in coordinating several missions to determine the capacities of DA laboratories. The project entitled, "Evaluation of Laboratories of the Department of Agriculture and Proposed Laboratory Policy" was initiated to provide an assessment of the potential of the laboratories from all agencies of the Department and propose a policy to rationalize their collective use to the DA. It also intends to ensure the provision of accurate data for regulatory and enforcement purposes, research and development, standards development, production, extension and marketing services for the agriculture and fishery sector. For 2016, three (3) Short Term Expert Missions were deployed, the outputs of which are the following:

- Gaps/needs assessment and initial inventory of laboratories
- Development of policy recommendations
- Draft DA National Contaminant Monitoring Plan

As part of the continuing efforts to strengthen the role of the laboratories under the DA, BAFS facilitated the consultation with the regulatory and laboratory divisions of the DA RFOs. Inputs from the consultation were considered in the drafting of the Department Order (DO) on the Laboratory Policy, which was presented to the various DA Regulatory Agencies on December 14, 2016. Finalization of the policy document is expected to be completed during the 1st quarter of 2017.

## **Bureau of Animal Industry**

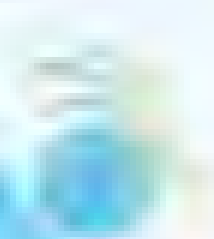
**Accelerating the Genetic Resource Improvement for Beef and Cattle and Small Ruminants (AGRIPBES).** AGRIPBES aims to hasten the development of beef cattle and small ruminant industry in the country by setting up a network of private and government-run genetic farms. For 2016, the stock infusion component of the project was able to deliver 910 head of imported breeder sheep and 78 head of beef cattle from United States of America to various government nucleus farms and stations.

Existing breeding farms were infused with new blood lines and quality breeder stocks. This is to ensure the continuous breeding of purebreds and genetically superior/upgraded animals that will serve as local source of breeder stock for backyard farmers and small-scale commercial farms.

From 2010 to 2013, the imported small ruminant infusion sub-component distributed some 1,800 head goat and sheep to 16 regions for 239 multiplier farms composed of Government Stock Farms (GSF), State Universities and Colleges (SUCs), and Multiplier Farms or commercial progressive private farms. As of December 31, 2016, the consolidated total number of repayment animals from the nucleus and multiplier farms is 1,832 head small ruminants, given in turn to 631 beneficiaries or next-in-line recipients.

**Goat Production Project for the Accelerated Hunger Mitigation Program (GPP-AHMP).** A US PL-480 funded project, the GPP-AHMP is the bureau's effort to reduce hunger and poverty incidence in the country by upgrading the breeder base of goats and providing livelihood through goat production.

It funded the rehabilitation of four (4) goat houses in the National Small Ruminant Research and Development Center in preparation for the quarantine of incoming imported breeder goats from the USA and housing of the offspring produced by island-born breeder goats in the farm.



**Philippine Native Animal Development (PNAD) Program.** The partnership between the DOST-Philippine Council on Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) and BAR led to the development of the Itik Pinas—a genetically superior broiler duck with a higher average laying efficiency of 10% in a year compared with 55% for the old breed translating to an additional of 100 eggs per duck per year or an additional income of Php 400.00 per duck per year. This development has secured a more globally competitive duck industry and provided consumers with a stable supply of high quality, safe and reasonably-priced duck and duck products.

**Unified National Artificial Insemination Program (UNAIP)** UNAIP has been providing the strategic direction in the current AI efforts for cattle, dairy carabao, and goat production in support of the livestock genetic improvement agenda of the DA. A component of the program are the semen production centers of the National Beef Cattle Research and Development Center (NBCRDC) I in General Tinio, Nueva Ecija and NBCRDC II in Maaybalay, Bukidnon produced 147,919 semen straws, out of which 131,645 doses of semen straw were distributed nationwide.

## **Bureau of Agricultural Research**

**Basic and Strategic/Applied Research.** BAR focuses on supporting basic and applied research to enhance the quality of science and generation of appropriate technologies.

For 2016, a total of 30 applied research projects (19 new and 11 continuing) were funded.

**Community-based Participatory Action Research (CPAR)** CPAR is one of the approaches developed by the bureau to ensure the transfer and adoption of technologies from research to the farmers' utilization. The program is focused on strengthening research and development extension linkage in the country by studying and promoting technological interventions at the field/community level.

For 2016, BAR handled four (4) new CPAR projects. CPAR's farmer beneficiaries are the farmer cooperators who are direct beneficiaries and the consequent adopters.

**National Technology Commercialization Program (NTCP).** NTCP aims to grow enterprises through better technology transfer, promotion, adoption, utilization, and commercialization. It highlights R&D breakthroughs and appropriate technologies that could improve and develop agriculture and fisheries related industries from being resource-based to technology-based. Attention is given to technologies that meet or create markets.

For 2016, a total of 33 technology commercialization projects were funded (8 new and 25 continuing). Also, 100 technologies were developed and 45 technologies were commercialized.

## **Bureau of Plant Industry**

**Pest Management.** In 2014, the Philippines, except Palawan, was officially declared as free from mango seed weevil and mango pulp weevil.<sup>2</sup> This was recognized by the Agriculture Department of both the United States and Australia, which granted market access to Philippine mangoes.<sup>3</sup> To support the maintenance of this status, monitoring is undertaken all year round during on and off-fruiting season in different mango growing and production provinces of the country. For 2016, a total of 30 sites were monitored. Of these sites, a total of 26,473 trees were surveyed and 186,384 fruits were collected and dissected. No MPW and MSW were found among the collected samples.

A nationwide fruit fly monitoring and detection survey was also conducted to confirm the identity of all the fruit fly species in the country and determine abundance. It also aimed to monitor the population

<sup>2</sup> DA Administrative Circular No. 6 series 2014

<sup>3</sup> Except mangoes sourced from Palawan



of endemic fruit flies and detect new or introduced/exotic fruit fly species. A total of 190 sites were maintained and monitored nationwide. Three (3) species of fruit flies were collected and identified namely *Bactrocera philippinensis*, *Bactrocera occipitalis* and *Bactrocera umbrosa*.

## **Bureau of Soils and Water Management**

**National Soil Sampling and Testing for Fertility and Crop Suitability Assessment.** As the soil resources management arm of the DA, the BSWM led the implementation of soil sampling and testing nationwide. The activity is a primary step in developing the color-coded agricultural maps of the Philippines. For Phase 1 in 2016, priority was given to some 47 major rice producing provinces, while the remaining 34 provinces and 2 cities will form part of Phase 2 in 2017.<sup>4</sup>

As of December 2016, field survey and soil sampling in all 39 provinces were 100% completed. A total of 23,304 soil samples were collected, of which 19,777 and 3,527 were for soil fertility and crop suitability, respectively.

**Establishment of Composting Facilities.** Some 166 Small-Scale Composting Facilities (SSCF) were established in the second quarter of 2016. The project seeks to strengthen the institutional capacity of LGUs, farmer cooperatives and associations to produce vermicast, vermicompost and vermitea. Moreover, it aims to promote the use of the said fertilizers in combination with other available organic fertilizers and bio-fertilizers not only on rice, but also on corn and high value commercial crops such as fruits and vegetables. The facility is expected to provide the needed vermicast/vermicompost of farmer beneficiaries within a target 100 hectare cluster farms. This will ensure higher profit due to the significant reduction in the use of chemical fertilizers resulting in improvement of soil quality and biodiversity without adverse effect on yield of crops. Each SSCF is composed of 15 kilograms African Night Crawlers (ANCs), a shredder machine and a unit of vermitea brewer.

In addition, a total of 172 Composting Facilities for Biodegradable Wastes (CFBW) from CY 2016 funds were delivered throughout the country. The in-vessel composting facilities are composed of a rotary composter, shredding machine, and liquid organic fertilizer/compost brewer, and make use of market and food wastes for compost production.

**Cloud Seeding Operations (CSO).** The BSWM conducted six (6) CSOs in El Niño affected areas with technical assistance from the Philippine Air Force (PAF) and in coordination with the Civil Aviation Authority of the Philippines (CAAP), the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) and concerned DA RFOs and LGUs, saving agricultural crops and livestock. The CSOs in Regions 11 and 12 also helped in the control of forest fire in Mt. Apo during the height of El Niño.

The six (6) CSOs had a total of 255 flying hours dispensing about 3,098 bags of salt (77,450 kg). Success rates ranged from 50-100% or an average of 81% produced light, light to moderate and moderate to heavy rainfall occurrences over the seeding areas.

## **Attached Agencies**

### **Agricultural Credit Policy Council (ACPC)**

**Development of Program for Unified Lending to Agriculture (PUNLA).** During this period, an innovative financing scheme was developed to provide the agricultural credit needs of marginal farmers in the country's poorest provinces which include provinces deemed critical for development intervention by DA. It is grounded on four (4) strategic pillars, namely: (i) make credit access easy and convenient, (ii) bring down interest rates, (iii) expand delivery channels, and (iv) ensure sustainability.

<sup>4</sup> Of the 81 provinces, 12 provinces have recently been updated (2013-2015). Hence, 2017 field survey and sampling will cover 69 provinces and 2 cities.

of credit. A credit fund of Php 200 million sourced from the AMCFP was allotted for PUNLA. This non-collateralized credit facility funds, at an interest rate of 6% per annum, agri-fishery production, agri-microfinance or farm, non-farm or off-farm income generating activities, farm equipment or working animal acquisition, and working capital for trading. The loan amount is based on project requirement and the repayment capacity of the borrower, but is not to exceed P150,000.

As of December 31, 2016, a total of Php 79.0 million in loans was approved for 4,187 small farmers and fisherfolk (SFF) in the top ten poorest provinces. For 2017, PUNLA is scheduled to expand to five (5) more provinces.

### **Bureau of Fisheries and Aquatic Resources (BFAR)**

**Construction of fiberglass boats.** The Bureau of Fisheries and Aquatic Resources (BFAR) with its mission "To improve fisheries productivity and empowering the stakeholders towards food security, global competitiveness and climate change adaptation" institutionalized the training/capacity building and the construction of fiberglass reinforced plastic or FRP bancas. This intervention provides additional income to fishing communities and ensures the resiliency and safety of fishermen at sea.

The DA-BFAR F/B Pagbabago banca is made of fiberglass reinforced plastic materials and its construction requires skills and knowledge in compounding and applying the mixtures to give shape and strength to the physical structure of the boat. The FRP boats are environment friendly in that they do not require wood or any wooden materials, are durable and can withstand harsh marine conditions, are easy to repair, and are resistant to corrosion and decay. As of December 2016, some 706 units of FRP fishing boats had been constructed, with 204 units awarded to fisherfolk beneficiaries.

**Malinis at Masaganang Karagatan.** The Bureau conducted the Malinis at Masaganang Karagatan (MMK) National Search for Outstanding Coastal Community. The MMK program aims to promote fisheries protection and conservation by communicating the significance of sustainably managing fisheries and aquatic resources and encouraging stakeholder engagement in resource protection and conservation.

**Rehabilitating polluted waters.** The National Inland Fisheries Enhancement Program or NIFEP is one of the Bureau's key activities for the restoration and fisheries enhancement of inland water resources. Through NIFEP, heavily polluted water reservoirs unfit for growing fish can be rehabilitated and used for cultivating freshwater fish.

In 2016, the Bureau was able to restore and rehabilitate 31 lakes and reservoirs for enhanced fisheries through renewing buffer zones with 5,000 freshwater mangrove planted, establishing 26 habitat structures, setting-up 19 open water culture-based fisheries, and capacitating 703 fisherfolk beneficiaries.

### **Philippine Fiber Industry Development Authority (PhilFiDA)**

**Provision of Production Support.** For 2016, PhilFiDA produced 401,047 abaca planting materials (270,958 abaca seed pieces and 130,089 tissue-cultured plantlets) through its seedbanks and tissue culture laboratories. Of these, 149,271 abaca planting materials (86,424 seed pieces, 62,847 plantlets) were distributed to 70 individuals and 40 group beneficiaries.

Through continuous campaign, some 1,902 farmers planted a total of 1,433 hectares of new abaca areas, including expansion areas in various abaca-growing regions. Moreover, 1,085 farmers nationwide replanted around 1,089 hectares of old and unproductive abaca areas.

**Trade Regulation and Disease Management.** In standards implementation, PhilFiDA issued 3,255 Primary Certificates of Fiber Inspection and 6,210 Permits to Transport Fiber (PTF) for 2016. During this period, 635,638 inspected bales were approved. For trade regulation, 1,299 industry participants were issued with new and renewed licenses.

**Abaca Disease Management Project.** In 2016, PhilFIDA worked with concerned LGUs to eradicate bunchy top disease in a total of 5,812 hectares under its Abaca Disease Management Project (ADMP). The agency provided the necessary herbicide and pesticide to kill the insects that carry the disease and supervised the elimination of diseased plants. Some 816 hectares were also provided technical services by PhilFIDA in collaboration with DSWD. An additional 1,425.61 hectares were likewise covered by the ADMP using the 2015 Continuing Funds, of which 1,055.91 were served with DSWD.

**Abaca Rehabilitation Project in Sogod, Southern Leyte.** The project will provide abaca planting materials, fertilizers, and insurance on a "Plant Now, Pay Later Scheme" in 32 abaca-producing barangays of Sogod, Southern Leyte. Preparatory activities were conducted in 2016, such as the bidding for supply of planting materials and processing of necessary MOAs. PhilFIDA Region VIII also provided technical assistance to the LGU of Sogod in the conduct of orientation seminars on abaca rehabilitation and of a Training of Trainers (TOT).

**Support to Cotton Production Project.** Started in 2016, the project aims to revive the Philippine cotton industry and sustain the production of cotton fiber for small-scale users, such as the local loom-weavers and knitters and eventually for commercial-size utilization. The target area to be planted for this project is 100 hectares. During the last quarter of 2016, the area planted for the crop reached 30.75 hectares, involving 36 farmers in Luzon and Visayas.

### **Philippine Council for Agriculture and Fisheries (PCAF)**

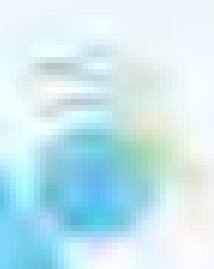
**Development and Coordination of Agriculture and Fisheries Policies.** The consultative role of PCAF is undertaken through its network of advisory special bodies, namely, the National Agricultural and Fishery Council (NAFC), the National Sectoral and Strategic Concerns Committees (NSCs), and the Regional, Provincial, and City/Municipal Agricultural and Fishery Councils (AFCs). PCAF serves as secretariat to the NAFC and the NSCs which tackle issues at the national level. On the other hand, the Regional, Provincial, and City/Municipal Agricultural and Fishery Councils (AFCs) provide venues for consultation on agricultural and fishery issues, as well as for feedback on DA and PCAF programs and projects and other related concerns at the local levels.

From the 847 consultative meetings held in 2016, a total of 445 policy recommendations/resolutions were generated and endorsed to the concerned entities for appropriate action, one of which is the creation, within the DA and its bureaus/agencies, of units responsible for the preparation and packaging of project proposals and other documentary requirements on behalf of clients. This will enable the farm/fishery-based organizations, who have difficulties in complying with documentary requirements, to have easier and faster access to government assistance.

**Planning, Monitoring and Knowledge Management.** The PCAF led in the conduct of participatory monitoring and tracking of programs and projects funded from proceeds of 2KR- and the PL480 commodity grants from Japan and the US, respectively. The commodities given to the Philippines under the two (2) programs are sold by competitive bidding and the funds generated are used for development projects. Some 336 M&E reports were generated and disseminated to 7,215 recipients, including the national and local government agencies, units, and other agri-fishery stakeholders. Further, an evaluative study was also commissioned for the Review of Laws and Regulations to Enhance Policy Environment towards Agriculture and Fisheries Modernization.

**Partnership Development.** PCAF successfully held the 2nd National Volunteers' Day (NVD), an event that recognizes the contributions of private sector partner-volunteers in agriculture and fishery development processes. Due recognition was given to leaders and coordinators who rendered exemplary contributions and services to the AFCs.

Another important activity handled by PCAF is the Gawad Saka Search for Outstanding PAFC and C/MAFC. For 2016, winners were Masbate PAFC and Ocampo, Camarines Sur MAFC.



## National Meat Inspection Service (NMIS)

**Compliance to Quality Meat Standards.** A total of 460 meat establishments were given licenses to operate being compliant to the Meat Standards Quality Assurance (MSQA) protocol. There is a decrease in the number of accredited meat establishments from 2015 to 2016 due to Joint DOH-FDA & DA- NMIS Circular No. 2 Series of 2016 which transfers regulatory functions over processed meat products from NMIS to FDA.

Accredited Meat Establishment					
Meat Establishment	2015	2016			% Growth
		AAA	AA	Total	
Slaughterhouse (SLH)	117	6	100	106	-10%
Poultry Dressing Plant (PDP)	122	31	96	127	3.9%
Meat Cutting Plant (MCP)	55	6	58	64	14%
Meat Processing Plant (MPP)	249	38	125	163	-52%
<b>Total</b>	<b>543</b>	<b>81</b>	<b>379</b>	<b>460</b>	<b>-18%</b>

Table 15 Number of Accredited Meat Establishment from 2015 to 2016

On the other hand, slaughter data generally increased from 2015 to 2016. Positive growths in animals and meat inspected are noted especially in duck, crocodile and goat. Furthermore, livestock such as sheep, cattle, hog and carabao showed modest increases in slaughter data in 2016.

Commodity (No. of heads)	2015	2016	Growth Rate
Ostrich	276	208	25%
Crocodile	643	2,721	323%
Sheep	956	1,365	43%
Horse	1,527	1,386	9%
Goat	5,572	9,718	74%
Duck	58,946	750,239	1,73%
Carabao	64,795	75,547	17%
Cattle	150,063	90,788	27%
Hog	3,341,326	4,671,717	25%
Poultry	460,502,154	460,433,401	0%

Table 16 Slaughter Data from 2015 to 2016

**Meat Establishment Improvement Program (MEIP).** NMIS, through its MEIP, granted financial assistance to the Local Government Units (LGUs) in Apayao, Aboey, Northern Samar and South Cotabato for the improvement, rehabilitation or renovation of their meat establishments.

CY 2016 Meat Establishment Improvement Program (MEIP)			
Region	Recipients (LGU)	Amount Granted ('000)	Implementation Status
CAR	Pudtol, Apayao	5,000	49% Civil Works
V	Guinobatan, Albay	5,000	Bidding Conducted
VIII	San Roque, Northern Samar	5,000	On-going Construction
XII	Banga South Cotabato	5,000	Bidding Conducted

Table 17. Status of Implementation of MEIP Areas

The MEIP is implemented under a 50:50 cost sharing scheme between NMIS and LGU beneficiaries in collaboration with DBM and DILG.

### **Philippine Carabao Center (PCC)**

**Purebred and Crossbred Dairy Buffaloes.** The PCC's National Gene Pool (NGP) operates as an "open nucleus herd" i.e., it allows entry of breeding stocks into a herd of purebred (riverine) dairy buffaloes for systematic breeding, selection, and genetic evaluation. The purpose is to eventually produce an elite herd of dairy buffaloes that would be the source of superior germplasm for future generations. The PCC also entrusts purebred dairy buffaloes to farmer-cooperators in various cities and municipalities in Nueva Ecija (National Impact Zone/NIZ for dairy buffalo development) and in the Regional Impact Zones (RIZs) being stewarded by the PCC's regional centers.

**Dairy buffalo breeding program.** Genetic evaluation continued with the use of multi-trait random regression test day model (MT-RRM) for breeding value estimation (EBV) in Philippine dairy buffaloes. This methodology of genetic evaluation is based on research on estimation of genetic parameters.

**Swamp buffalo breeding program.** The genetic parameters and phenotypic trend for growth traits of the gene pool for swamp buffaloes in PCC at CSU were also estimated/analyzed in 2016. It was noted that there was a substantial increase in average weight and average daily gain across different age category and a very positive phenotypic trend across the years. To continue with the breeding program, two selected swamp buffalo semen donor bulls were included in the Sire Directory 2016.

**National Crossbreeding Program.** The aim of the PCC's crossbreeding program is to ultimately develop a Philippine dairy breed adaptable under local conditions. The production of crossbred buffaloes is done through artificial insemination (AI) and natural mating via the Bul Loan Program. As of December 2016, there were 12,270 monitored calves born out of the 2015 AI services.

**Research for Development.** Research for Development (R4D) is one of the major thrusts of PCC. It helps propel the agency to work towards a better understanding of the foundation and dynamics of genetic improvement, animal health and nutrition, buffalo-based enterprises, and the underlying socioeconomic issues related to program implementation. In 2016, 22 research projects were completed while another 64 are still being conducted.

Field	Completed	Ongoing
Production Management System	6	5
Biosafety	4	17
Genetic Resource Utilization (Breeding and Genetic Evaluation)	1	6
Genetic Resource Utilization (Reproductive Bio techniques)	1	18
Product Development	2	4
Enterprise Development	2	5
Socio-Economics	6	5
Technology Transfer	0	2
Institutional Development	0	2
<b>Total</b>	<b>22</b>	<b>64</b>

Table 18. Status of Research Projects, by field/type

### Philippine Center for Postharvest Development and Mechanization (PHilMech)

**Agricultural and Fishery Mechanization Research, Development and Extension Network (AFMechRDEN)** PHilMech took leadership in the establishment and operationalization of the AFMechRDEN. In 2016, the AFMechRDEN Executive Committee was created. Through the collective efforts of various network members, the Agricultural and Fishery Mechanization Research and Development Agenda was finalized.

Also during this period, the AFMechRDE Database and Information System, a system intended for Research and Development Institutions (RDIs), Higher Education Institutions (HEIs) and Regional Field Offices (RFOs), was developed and updated. The system was launched and piloted with the RDIs and HEIs.

**Agricultural and Fisheries Mechanization Engineering Resource Network (AFMechERN).** Another initiative in 2016 was the establishment and operationalization of AFMechERN. Similar to the AFMechRDEN, the Database and Information System of the AFMechERN has been developed and continuously updated throughout 2016. System piloting was conducted with the DA RFOs.

**Extension Support, Education and Training Services.** Overall, 1,046 individuals participated in the various training programs conducted by PhilMech, with 100% of the participants rating the programs as good or better. Included in these programs were training courses on the operation and maintenance of different machines, technologies, and facilities, upgrading technical capability of local manufacturers, and business planning for coffee farmers and processors, as well as technical forums and symposiums on various postharvest and mechanization technologies.

**Development of agricultural mechanization and postharvest technologies.** For 2016, a total of 21 technologies were developed under PhilMech. Among these technologies were machineries which can viably reduce postharvest losses, preserve quality of products, and make various production and postproduction operations more efficient, such as commercial scale fluidized bed-drying system, grains probe moisture meter, greenhouse type solar dryer with biomass furnace, mechanical cassava harvester, improved cassava granulator, impact type huller for brown rice, and food grade fermentary box for Cacao.

In addition, non-chemical approaches for managing postharvest diseases of tropical fruits (i.e. banana, mango and papaya) were developed in 2016. These include an alternative non-chemical postharvest treatment to control crown rot disease in banana, which can be adopted immediately by the banana industry without any additional manpower and equipment requirement.

## Attached Corporation

### National Dairy Authority (NDA)

**Performance of Dairy in the Philippine Livestock Sector.** Dairy recorded the second highest growth in volume of production at 3.78% and registered the highest increase in value at 9.51% in the livestock sector. Total dairy production reached 21.16 thousand MTs and grossed more than Php715 million at current prices.

According to the Philippine Statistics Authority, the increase in volume and value of production can be attributed to the high demand for local milk resulting in higher milk production and better pricing.

**Growth in Dairy Animal Inventory and Milk Production.** Total dairy herd increased by 18% as of December 2016 with dams and does increasing by the same level. The increase in inventory can be attributed to the build-up of existing local animals and animal infusion in dairy areas. Likewise, milk production increased by a modest 2%.

Indicators	As of Dec. 2015	As of Dec. 2016	% Growth
No. of Dairy Herd	38,430	45,439	18%
Dams and Does	18,412	21,752	18%
Milk production ('000 liters)	15,373.25	15,622.78	2%
Milk production/day ('000 liters)	42.12	42.80	2%

Table 19: Animal inventory and milk production

Of the 45,439 total dairy herd, goats account for 27%, second only to cattle and surpassing the total number of dairy carabaos in NDA-assisted areas. Significant growth is further observed in the dairy goat sector as total herd increased by 17% and milk production by 4%.

**Easy Access to Dairy Animal Financing.** In line with one of the DA's Ten Point Agenda, the NDA restructured its animal repayment scheme and came up with the Unified Standard Payment-in-Kind Scheme for the NDA Dairy Animal Distribution Program or the 1:1 Scheme. The NDA lends dairy animals to eligible dairy farm operators to be paid in four (4) years in kind, i.e., one (1) similar dairy animal for every animal received.

**Dairy Multiplier Farms' (DMFs) Operation.** The 95 dairy multiplier farms with current stocks of 10,454 head comprised 23% of the total dairy herd coverage of NDA. The DMFs' milk production stood at 6.9 million liters, constituting 44% of the total milk produced by NDA-assisted farms.

The DMFs were established to become local suppliers of dairy animals as they passed on their animal harvests to new dairy farmers as payment for the original animals they received. As of December 2016, the animal repayments received from DMFs reached a total of 261, which were then distributed to other dairy farmers.

**Enticing Private Sector Investment in Dairy Animal Infusion.** The NDA assisted in the importation of 500 heads of Holstein Friesian Sahiwal cattle for Universal Harvester Dairy Farm in Maramag, Bukidnon. In the same manner, NDA provided assistance to the Benacorn Corporation in San Pablo,

Laguna to import 240 heads of breedable Holstein cross Jersey heifers from Australia. Both farms are expected to be future sources of locally born animals in the country.

**International Collaboration.** Launched in 2013, the Philippines-New Zealand Dairy Project (PNZDP) aims to assist in the development of a profitable, equitable and sustainable Philippine dairy industry. Through PNZDP, a total of 285 heads of Holstein Friesian x Jersey breed dairy cattle were imported from New Zealand and distributed to existing and new dairy farms all over the Philippines.

**Improved Welfare of Stakeholders.** About 94% of 882 children served in milk feeding programs reported weight gains after completing the 120-day milk-feeding period.

Furthermore, dairy farmers reported a 44% increment in average milk revenues from P1,790 in 2015 to P2,579 in 2016. Similarly, dairy multiplier farm operators registered a 6% increment in income from P8,656 to P9,197.

### **National Tobacco Authority (NTA)**

**Updates on Tobacco Industry.** The number of tobacco farmers and tobacco farm area (in hectares) both decreased by 6% from 2015 to 2016 from 46,531 to 43,625 and from 32,761 to 30,648, respectively. The volume of production also decreased by 10% to settle at 47 million kilos valued at P3.45 billion. Revenue from excise taxes in 2016 was P85.93 billion, which was 12% lower than collections of Php 97.40 billion in 2015.

Export of unmanufactured leaf tobacco decreased by 9% from 36.64 million kilos to 33.36 million kilos, with a corresponding 3% decrease in value from US\$134.78 million to US\$131.06 million. On the other hand, local manufacturers imported a total of 52.11 million kilos of unmanufactured leaf tobacco for 2016, down by 18% from 63.34 million kilos in 2015. Including manufactured tobacco imports totaled at 57.52 million kilos valued at US\$282.76 million.

**Increasing Tobacco Productivity.** NTA promotes market-driven quality tobacco production through the implementation of Tobacco Contract Growing System (TCGS), which assures the tobacco manufacturers and exporters of the volume and quality of their tobacco requirement. It also provides necessary production and technical assistance to farmers, as well as incentives for good performance. For calendar year 2016 (covering end of crop year September 2015 – May 2016), NTA assisted a total of 3,493 tobacco farmers with P70.65 million worth of production assistance. NTA also facilitated the release of production assistance provided by tobacco buyer firms, government financial institutions (GFIs) and LGUs to tobacco farmers. Yield obtained under the TCGS across tobacco types and source of financing in CY 2015-16 was 2,369 kg/ha—a 7% increase from previous yield of 2,210 kg/ha. Moreover, average net income across all types of tobacco increased by 54% from P45,063 to P69,271 per hectare.

**Tobacco Free Education Program (TFEP).** NTA also continued the scholarship program for tobacco farmers' children pursuant to RA 9211, Tobacco Free Education Program (TFEP) and in affirmation of the Administration's commitment to giving priority to the primary stakeholders of the industry, the tobacco farmers. For 2016, financial assistance was provided to 365 scholars enrolled in four-year and vocational/technical courses in state colleges and universities in Regions I, II, and CAR.

### **Quedan and Rural Credit Guarantee Corporation (QUEDANCOR)**

**Efforts on recovery and collection.** In the absence of government subsidy for the past seven (7) years, the calendar year of 2016 remained to be a challenging year for QUEDANCOR as it continues to achieve corporate recovery and maintain existence through various collection efforts on trade receivables and sale and lease of acquired assets and properties.

In pursuit of generating enough financial resources to meet requirements, QUEDANCOR's actual cash collection from January to December 31, 2016 reached a total of P144.65 million from trade receivables and disposal of acquired assets. The Corporation posted a 72% accomplishment as against P200 million collection targets for the period.

QUEDANCOR facilitated credit guarantee assistance through the Production Inputs and Labor Facilities Machinery and Equipment (PILFAME) program which caters to the capital needs of farmers and fishers for the acquisition of farm/fishing machineries, equipment, implements, facilities, labor and even inputs like seeds, fingerlings, feeds, fertilizers and pesticides. Under this facility, the Lending Entity (LE) funds the loan of the borrower at 100% while QUEDANCOR guarantees up to 85% of the outstanding principal plus accrued interest of the loan. During the period January to December 2016, the Corporation's guarantee reached Php2.23 million which benefitted 90 borrowers through PILFAME, in partnership with nine accredited LEs.

### **Sugar Regulatory Administration (SRA)**

**Distribution of High Yielding Varieties (HYVs).** A total of 26,370,061 pieces of planting materials were produced and distributed in 2016. These planting materials originated from SRA's agricultural research centers namely: (1) Luzon Agriculture Research and Extension Center (LAREC) and (2) La Granja Agricultural Research and Extension Center (LGAREC). Additionally, planting materials from nurseries maintained in the mill districts of Luzon/Mindanao and the Visayas contributed to the production and distribution of commercially tested caneplants. A total of 603 farmers and planters procured the planting materials.

**Various extension support services.** There were 110 training activities conducted in Luzon/Mindanao and Visayas with 4,969 farmer and ARB participants. To further provide information on the best practices and technologies in sugarcane planting, 6,231 IEC materials were distributed to 4,420 farmers/planters (including walk-in clients). To introduce new and/or improved tested technologies for the farmers for observation, comparison with their own practice and adoption, seven (7) techno-demo farms were maintained.

**SIDA Scholarship Program.** The Sugarcane Industry Development Act (SIDA) of 2015 stipulates that all stakeholders in the sugarcane industry shall contribute to human resource development. Consistent with this, the SIDA Scholarship Program caters to underprivileged but deserving college and post-graduate students taking up courses in relevant fields of discipline in State Universities. It also includes scholarships for vocational courses and skills development for farmers and farm technicians, and skilled workers in sugar refineries and biomass power plants.

There were 269 SIDA approved scholars for the Academic Year of 2016-2017, broken down as follows:

Approved Scholars for SIDA	
SRA	3
CHED	93
TESDA	37
New CHED Scholarship Grantees	26
<b>TOTAL SIDA Scholars</b>	<b>269</b>

Table 20. Approved Scholars for SIDA

Aimed at providing the industry with highly qualified technical and extension personnel, SRA also offers a Scholarship Program which currently supports and sponsors seventeen (17) scholars enrolled in the University of the Philippines Los Baños (9 scholars) and the Central Philippines State University Negros Occidental (8 scholars).

**Regulatory services.** The SRA continued issuing various regulatory documents in accordance with Sugar Policies. A total of 2,387 certificates and 4,112 clearances were issued during 2016. The increase in the issuance of test certificates and clearances was brought about by the Export Replacement Program wherein the exportation of B sugar was allowed to fulfill the US quota commitment. Moreover, 43 licenses were issued to sugar mills, refineries and bio-ethanol plants. For the coastwise movement of sugar, a total of 18,004 permits were issued for both RD Luzon, Mindanao and Visayas. Lastly, quedans permits for raw and refined sugar, molasses storage certificates, reinstatement of homeless quedans and Sugar Release Orders attested numbered 691,300.

### **Philippine Fisheries Development Authority (PFDA)**

**Operation of the Regional Fish Port Complexes and Municipal Fish Ports.** Pursuant to its mandate, PFDA sustained the operation of the eight (8) Regional Fish Ports (RFPs) and one (1) City Fish Port (CFP). From January to December 2016, the total volume of fish unloaded at the RFP complexes maintained by PFDA reached a total of 456,350 metric tons (mt). The two biggest contributors to fish unloadings are the General Santos Fish Port Complex (45%) and the Navotas Fish Port Complex (37%). Moreover, the total number of fishing and non-fishing vessel arrivals in PFDA-managed ports reached 64,158.

With regard to processing activities, 2,005 mt of fishery products were processed in Zamboanga General Santos, and Camagan Fish Port Complexes. On the other hand, the total volume of ice produced at the five (5) RFPCs was recorded at 46,908 mt—a 23% increase compared to last year's total ice production.

As of December 2016, PFDA had constructed 105 fish ports nationwide. Of this total, 96 have been turned over to LGUs. The fish port in Tacloban, Leyte is under joint management by PFDA and LGU.

**Construction/Improvement/Upgrading of Fish Port Facilities.** On the implementation of Post-Harvest and other Infrastructure Component under the BFAR Program, a total of nine (9) fish ports and four (4) Ice Plant and Cold Storage (IPCS) projects were completed in 2016, while the construction and upgrading of some eleven (11) fish ports and one (1) IPCS project are still on-going.

Under the CY 2014 Supplemental Appropriations, six (6) fish port projects were completed while one (1) remained on-going. Similarly, under the CY 2015 GAA, the construction of Matum Fish Port (Sarangani) was completed while the construction of 10 more fish port projects are on-going.

**Ice Plant and Cold Storage Project.** In line with the government's privatization scheme, PFDA continued to lease out four (4) ice plants and cold storages to the private sector located in the provinces of Masbate, Negros Occidental, Sultan Kudarat and Surigao del Norte. To date, there are a total of 79 IPCS established nationwide. For 2016, nine (9) established IPCS are for turn-over to LGU.

### **Philippine Rice Research Institute (PhilRice)**

**Leading in rice R&D.** PhilRice implemented 122 projects and 241 studies categorized under R&D programs: discipline-based, area-based, and special R&D projects in 2016.

Six (6) PhilRice-bred varieties were released for commercialization: 2 for irrigated, 2 for saline, 1 for rainfed, and 1 hybrid. These are NSIC Rc438 (Tubigan 38), NSIC Rc440 (Tubigan 39), NSIC Rc462 (Salinas 21), NSIC Rc472 (Salinas 26), NSIC Rc476 (Sahod Uan 23), and NSIC Rc446H (Mestiso 73). These varieties are widely adaptable in their respective ecosystems. Notably, Mestiso 73 can yield as high as 11.6 t/ha.

Acknowledging mechanization as an integral part of rice competitiveness, PhilRice also conducted several machine-related studies in 2016, which led to nine (9) agri-machines developed, piloted, or deployed. Some of these explored alternative sources of energy, particularly the use of rice husk. Moreover, PhilRice designed and developed a carbonized rice husk-insulated silo to reduce rice storage losses. This resulted in maintained viability of NSC Rc216 for 10 months.

**Production of relevant knowledge products.** PhilRice also produced 76 titles, which included knowledge products on E-Niño and La Niña, more titles in Filipino, and several publications in the vernacular, with over 300,000 copies distributed to clients. Aimed at increasing the comprehensibility of its knowledge products, PhilRice increased its publications in Filipino and, through its branch station in Batac, led efforts to translate to Iluko some of its major publications.

**Integrating Rice Production into School Curriculums.** In line with one of the Basic Foundations of a sound agriculture and fisheries program, which is the "re-introduction of basic agriculture in the primary and elementary grades of the Philippine schools system," PhilRice reinforced the conduct of the Informery Campaign. Now with more than 208 participating high schools, the initiative aims to integrate rice production lessons in high school curricula. In 2016, 39% of these schools, mostly under the Technical-Vocational program of the Department of Education, successfully integrated rice production into their curriculum.

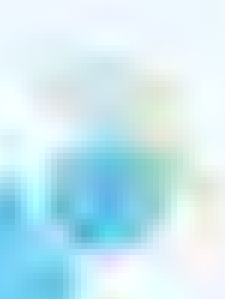
## **Philippine Crop Insurance Corporation (PCIC)**

**The Weather Index-Based Insurance (WIBI) Mindanao Project.** This project is funded by the United Nations Development Programme (UNDP). It aims to provide insurance protection for rice and corn farmers against low and excessive rainfall. Under this project, claims indemnities are paid based on the agreed weather indices or yield threshold, providing quicker responses to the farmers' insurance claims.

The DA-PCIC WIBI Mindanao Project Management Office (PMO) held the 2nd Regional Project Mission on February 22 to 26, 2016, in Bukidnon Province and Davao City. The mission was highlighted by the distribution of payout checks in areas where weather indices were breached. Success stories proved that the project provides the farmers the chance to restore their businesses and gives them the opportunity to improve their lives.

**Promoting change and innovation.** PCIC's solid operation during the political transition year gave it a strong head start in pushing one of the Department of Agriculture's 10-point agenda: easy access to financing program for farmers, fishermen and agriculture and fisheries stakeholders.

PCIC has fittingly set the following key strategic moves as instructed by Sec. Prñol to guide its operation this year: intensifying information and education campaigns through the conduct of trainings and seminars on PCIC products; seminars among farmers and fisherfolk; and radio and television campaigns; enhancing insurance operations by deploying smart-phone technology to enable simultaneous verification of reported damages and processing of claims; establishing more extension offices; and improving organizational capacity, including embarking on a renewed legislative campaign to expand its capitalization.







## ACHIEVING GOALS THROUGH OUR DEVELOPMENT PARTNERS

### French Government

**Integrated Marine Environment Monitoring System Phase 2 (PHILO Project)** Topping the Official Development Assistance (ODA) received by the DA is the €28.52 million (or Php 1.4 billion) loan assistance from the French Government through its corporate and investment bank Natixis for the Integrated Marine Environment Monitoring System Phase 2 (PHILO Project). The project is a nationwide expansion of BFAR's Vessel Monitoring System (VMS) and includes the integration of various databases including fishing vessel registry, ocean and weather data, stock assessment data, IUU records, and other regulatory information. Through this project, the DA hopes to monitor fishing vessels and combat illegal fisheries in order to protect the maritime resource sustainably, support the national fishing industry, and promote seafood products for export.

### Korea International Cooperation Agency (KOICA)

**Enhancing the Capacity of Production Distribution of High-Quality Rice Seeds (ECPDH-QRS).** To provide high-quality seeds to farmers and seed growers, the first state-of-the-art rice seed processing facility which houses advanced equipment was inaugurated at the PhilRice, Science City of Muñoz, on December 6, 2016. The facility was funded by the Korea International Cooperation Agency (KOICA) under the Php 180 million grant-assisted ECPDH-QRS project and can process up to 2 tons of seeds per hour. It consists of 2 units of 6 tons per batch recirculating dryer, 2 units of 4 tons capacity per batch reversible airflow flatbed dryers, 2 units of 2t/hr air screen machine, 1 unit of 2t/hr gravity separator, an automatic bagger and closer, and a 50 cubic meter cold storage room.

According to Engr. Evangeline B. Sibayan, Head of the Rice Engineering and Mechanization Division of PhilRice, the facility is "the first of its kind in the Philippines and expected to drastically reduce the Institute's seed processing time by at least half."

As of 2016, a total of nine (9) KOICA experts were dispatched to PhilRice to provide technical support to the project's major component activities. A total of 40 Philippine personnel, project implementers, attended training courses in rice seed production in Korea. In addition, three (3) local training courses were conducted from April to June 2016, led by the BP-National Seed Quality Control Services (NSQCS) as co-project implementer.

### The World Bank

**Philippine Rural Development Project.** PRDP is a 6-year project designed to establish the government platform for a modern, climate-smart and market-oriented agri-fishery sector. For 2016, the project accomplished the following:

**Local and National Level Planning** - 36 value chain analyses (VCAs) covering 12 commodities were issued with no objection letters (NOL) from the WB. In addition, 6 Provincial Commodity Investment Plans (PCIPs) were approved by the Provincial Development Councils (PDC), bringing the total number of PCIPs approved to 80 (see table below). These VCAs and PCIPs are significant because they will form the basis for investments in the covered areas.

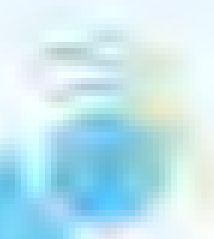
Region	Province	Commodities
CAR	Abra	Mango, Coffee
	Apayao	Coffee, Banana
	Benguet	Coffee
	Ifugao	Coffee, Heirloom Rice
	Kalinga	Coffee, Heirloom Rice
	Mountain Province	Coffee, Heirloom Rice, White potato
Ilocos Region	Ilocos Norte	Mango, Onion
	Ilocos Sur	Mango, Peanut, Goat, Onion
	La Union	Mango, Goat
	Pangasinan	Mango, Goat, Onion, Peanut
Cagayan Valley	Batanes	Organic Garlic
	Cagayan	Dairy, Mango
	Isabela	Dairy
	Nueva Vizcaya	Mandarin Citrus, Onion
	Quirino	Coffee, Banana Chips
Central Luzon	Aurora	Coconut (Coir), Coconut (Mature Coconut)
	Bataan	Sweet Potato, Sardines
	Bulacan	Ampalaya, Goat
	Nueva Ecija	Ampalaya, Onion, Goat, Mango, Aromatic/Pigmented Rice
	Pampanga	Cassava, Tilapia
	Tarlac	Sweet Potato, Goat
	Zambales	Mango, Sweet Potato
CALABARZON	Barangas	Dairy Cattle
	Cavite	Coffee, Pineapple, Mango, Banana, Dairy Cattle, Coffee, Coconut (VCO)
	Laguna	Pineapple, Mango, Banana
	Quezon	Seaweed, Coconut (VCO), Dairy Cattle, Banana
M MARIANA	Marinduque	Coconut (Geonet), Arrowroot
	Occidental Mindoro	Onion, Cassava, Tuna
	Oriental Mindoro	Cashews, Coconut, VCO
	Palawan	Cashew, Seaweeds, Banana (Chips)
	Romblon	Coconut, Mango (Fresh)
Bicol Region	Albay	Coconut (Geonet), Sweet potato
	Camarines Norte	Coconut (Geonet), Pineapple
	Camarines Sur	Coconut (Sugar), Cassava
	Catanduanes	Abaca, Crabapple
	Masbate	Coconut Charcoal, Goat
	Sorsogon	Pili, Seaweeds

Region	Province	Commodities
Western Visayas	Aklan	Abaca
	Antique	Muscovado
	Guimaras	Seaweeds, Mango
	Iloilo	Swine
	Negros Occidental	Muscovado
Central Visayas	Bohol	Seaweeds, Native chicken
	Cebu	Seaweeds
	Negros Oriental	Native Chicken
	Siquijor	Beef and Cattle
Eastern Visayas	Eastern Samar	Coconut (Geonet)
	Leyte	Banana (Cardava)
	Northern Samar	Coconut (Geonet)
	Samar	Banana (Cardava)
	Southern Leyte	Coconut (Geonet)
Zamboanga Peninsula	Zamboanga del Norte	Rubber (Crumb), Cacao, Coconut (Fiber and Peat), Mango (Fresh), Swine, Abaca
	Zamboanga del Sur	Cassava (Chips and Granules), Rubber (Crumb), Banana (Cardava), Seaweeds, Coconut (Fiber and Peat), Mango (Fresh), Abaca, Organic Rice, Cacao
	Zamboanga Sibugay	Rubber (Crumb), Seaweeds, Coconut (Fibre)
Northern Mindanao	Bukidnon	Rubber (Crumb), Banana (Cardava), Cacao, Cassava (Chips and Granules), Abaca, Oil Palm, Coffee (Green Coffee Beans)
	Camiguin	Banana (Cardava), Cassava (Chips and Granules)
	Lanao del Norte	Banana (Cardava), Coconut (Fiber and Peat), Seaweeds, Mango (Fresh)
	Misamis Occidental	Banana (Cardava), Abaca, Cacao, Seaweeds, Rubber (Crumb), Cassava (Chips and Granules), Mango (Fresh), Coco (Fiber and Peat), Coffee (Green Coffee Beans)
	Misamis Oriental	Banana (Cardava), Cassava (Chips and Granules), Abaca, Cacao, Coconut (Fiber and Peat), Coffee (Green Coffee Beans), Mango (Fresh)
Davao Region	Compostela Valley	Rubber (Crumb), Banana (Cardava), Cacao, Cassava (Chips and Granules), Abaca, Oil Palm, Seaweeds, Coffee (Green Coffee Beans), Coconut (Fiber and Peat)
	Davao del Norte	Abaca, Banana (Cardava), Cacao, Cassava (Chips and Granules), Oil Palm, Rubber (Crumb), Seaweeds, Mango (Fresh), Coffee (Green Coffee Beans), Coconut (Fiber)
	Davao del Sur	Rubber (Crumb), Banana (Cardava), Cacao, Cassava (Chips and Granules), Abaca, Seaweeds
	Davao Occidental	Abaca, Banana (Cardava), Cacao, Cassava (Chips and Granules), Coconut (Fiber and Peat)
	Davao Oriental	Banana (Cardava), Cacao, Abaca

Region	Province	Commodities
Northern Mindanao	Bukidnon	Rubber (Crumb), Banana (Cardava), Cacao, Cassava (Chips and Granules), Abaca, Oil Palm, Coffee (Green Coffee Beans)
	Compostela	Banana (Cardava), Cassava (Chips and Granules)
	Lanao del Norte	Banana, Cardava, Coconut, Fiber and Peat, Seaweeds, Mango, Fresh
	Misamis Occidental	Banana (Cardava), Abaca, Cacao, Seaweeds, Rubber (Crumb), Cassava (Chips and Granules), Mango (Fresh), Coco (Fiber and Peat), Coffee (Green Coffee Beans)
	Misamis Oriental	Banana (Cardava), Cassava (Chips and Granules), Abaca, Cacao, Coconut (Fiber and Peat), Coffee (Green Coffee Beans), Mango (Fresh)
Davao Region	Compostela Valley	Rubber (Crumb), Banana, Cardava, Cacao, Cassava (Chips and Granules), Abaca, Oil Palm, Seaweeds, Coffee (Green Coffee Beans), Coconut (Fiber and Peat)
	Davao del Norte	Abaca, Banana, Cardava, Cacao, Cassava (Chips and Granules), Oil Palm, Rubber (Crumb), Seaweeds, Mango (Fresh), Coffee (Green Coffee Beans), Coconut (Fiber)
	Davao del Sur	Rubber (Crumb), Banana (Cardava), Cacao, Cassava (Chips and Granules), Abaca, Seaweeds
	Davao Occidental	Abaca, Banana, Cardava, Cacao, Cassava (Chips and Granules), Coconut, Fiber and Peat
	Davao Oriental	Banana, Cardava, Cacao, Abaca
Soccsksargen	North Cotabato	Rubber (Sheet), Coconut (Sugar), Organic Rice, Banana, Coffee, Cacao, Oil Palm
	Sarangani	Coconut (VCO), Abaca
	South Cotabato	Cacao, Cassava (Chips and Granules), Coffee (Green Coffee Beans), Mango (Fresh), Coconut (Fiber and Peat)
	Sultan Kudarat	Coffee (Green Coffee Beans)
Caraga	Agusan del Norte	Abaca, Banana (Cardava), Coconut (Fiber and Peat), Cacao, Mango (Fresh), Coffee (Green Coffee Beans), Rubber (Crumb), Oil Palm, Cassava (Chips and Granules)
	Agusan del Sur	Rubber (Crumb), Cacao, Cassava (Chips and Granules), Abaca, Oil Palm, Banana, Cardava, Coconut (Fiber and Peat), Rice, Organic Rice
	Dinagat Islands	Cassava (Chips and Granules), Seaweed, Banana (Cardava), Cacao, Coconut (Fiber and Peat)
	Surigao del Norte	Cacao, Seaweeds, Cassava (Chips and Granules), Banana (Cardava), Coconut (Fiber and Peat)
	Surigao del Sur	Coconut (Fiber and Peat), Abaca, Seaweeds

Table 21. List of Approved PCIPs per Region

Source: <http://www.sp.daprdp.net>



Rural Infrastructure Development – Some 187 rural infrastructure subprojects amounting to Php 9.16 billion were approved for funding. Of these, 2 FMRs (18.52 km) and 1 C.S (100 ha) have been issued with NOL 2, allowing the awarding of contract to the winning bidders, amounting to Php 253.22 million and Php 33.96 million, respectively.

Enterprise Development - 193 enterprise development subprojects amounting to 262.28 million were also approved by the Regional Project Advisory Board (RPAB)

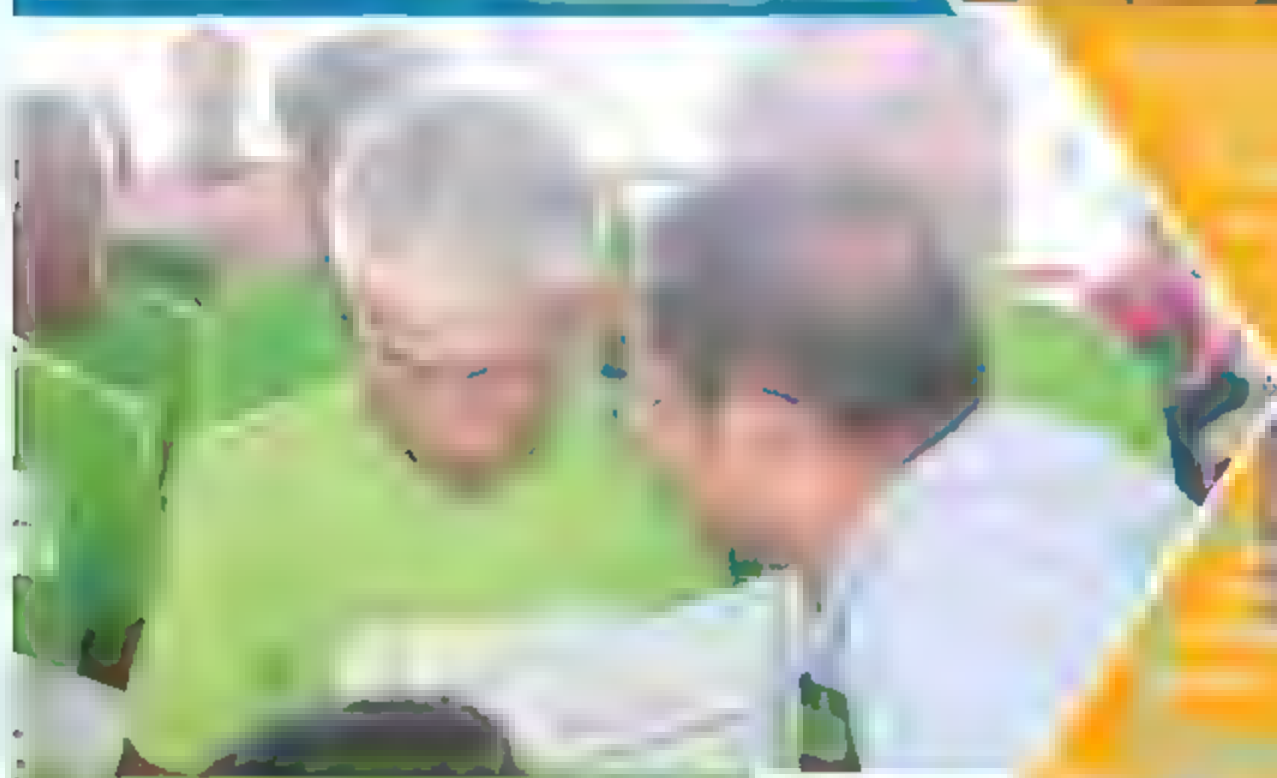
Implementation Support - Through the use of Applied Geo-Tagging Technology (AGT), the project saved a total of Php 2.18 billion in the canceling or disapproval of approved or proposed subprojects that were duplicated or non-compliant with the standards and protocols of the project.

**Philippine Climate Change Adaptation Project (PhilCCAP).** Supported under a grant financing agreement between the Philippine government and the World Bank, PhilCCAP is a project led by the DA and the DENR aimed at developing and demonstrating approaches that would enable targeted communities to adapt to the potential impacts of climate variability and change.

Component	Accomplishments
Strengthening the Enabling Environment for Climate Change Adaptation	<p>As a partner agency, the Climate Change Commission (CCC) was mandated to develop the following policy recommendations:</p> <ul style="list-style-type: none"> <li>▪ National and local policies on the integrated decision-making framework which deals with the streamlining of accountability and alignment of agencies in delivering National Climate Change Action Plan (NCCAP) outputs/ outcomes, and</li> <li>▪ Protocol on the access and sharing of climate information which is predicated upon the completion of an online climate change information repository.</li> </ul>
Demonstrating Climate Change Adaptation Strategies in the Agriculture and Natural Resources Sector	<ul style="list-style-type: none"> <li>▪ A total of 1,344 farmers from 5 municipalities and 1 city in 2 provinces have graduated from the ECS FFS program. In addition, a manual on the ECS FFS was completed, consisting of a compilation of modules on crop management, integrated farming and disaster response. The manual is now institutionalized within the DA as the official guidance for the conduct of climate smart FFS in the Philippines with the issuance of DA Memorandum Circular No. 3, Series of 2016.</li> <li>▪ A climate-smart decision support tool for rice and corn was also developed by the IRRRI for the project. The tool is accessible online. However, the assessments produced by the tool are applicable only to rice and corn farmers in project sites in Cagayan and Iloilo.</li> </ul>
Enhance Provision of Information for Climate Risk Management	<p>Automatic weather stations (AWS) were established in the towns of Peñafrancia in Cagayan, Minz in Iloilo, and San Benito in Siargao Island, Surigao del Norte to sufficiently cover areas considered as project sites. The following products were generated by the PAGASA for the 3 project sites:</p> <ul style="list-style-type: none"> <li>• Hazard maps</li> <li>• Monthly seasonal climate forecasts</li> <li>• Climate projection report</li> </ul>
Weather Index-Based Crop Insurance (WIBCI)	<p>An important component of WIBCI, the Geographic Insurance Unit (GIU) was developed to determine indemnity payments for farmers affected by certain weather perils. GIUs based on topographical and soil information also provide an effective method by which agricultural extension services are designed and disseminated.</p>
Project Management	<p>As part of its information campaign, PhilCCAP products were launched in a ceremony in March 2016. This was designed as a springboard for the mainstreaming of the products, especially those intended for wider public usage, such as the Community of Practice (CoP) and the Climate Smart Decision Support Tool (CS-DSS).</p>

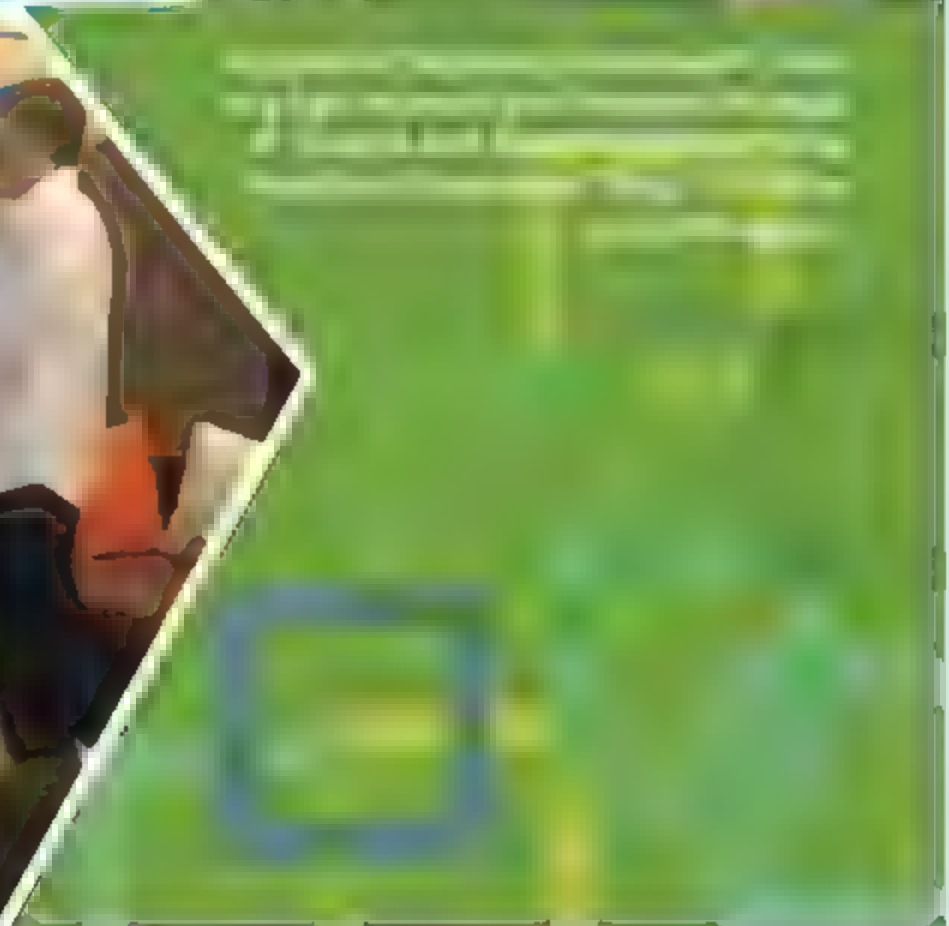
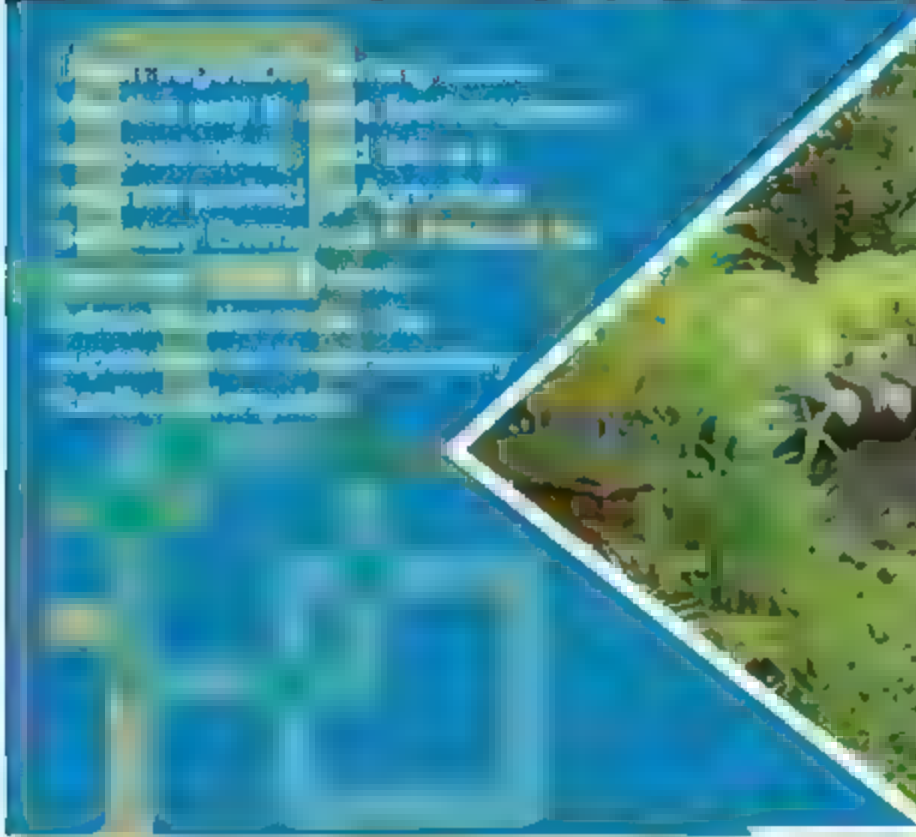
## SECRETARY IN ACTION

Newly sworn-in President Rodrigo R. Duterte poses with his new Agriculture Secretary Emmanuel F. Piñol at Malacanang's Ceremonial Hall after the President's swearing in on June 30, 2016. The President directed Piñol to ensure access to affordable and sufficient food for all Filipinos.



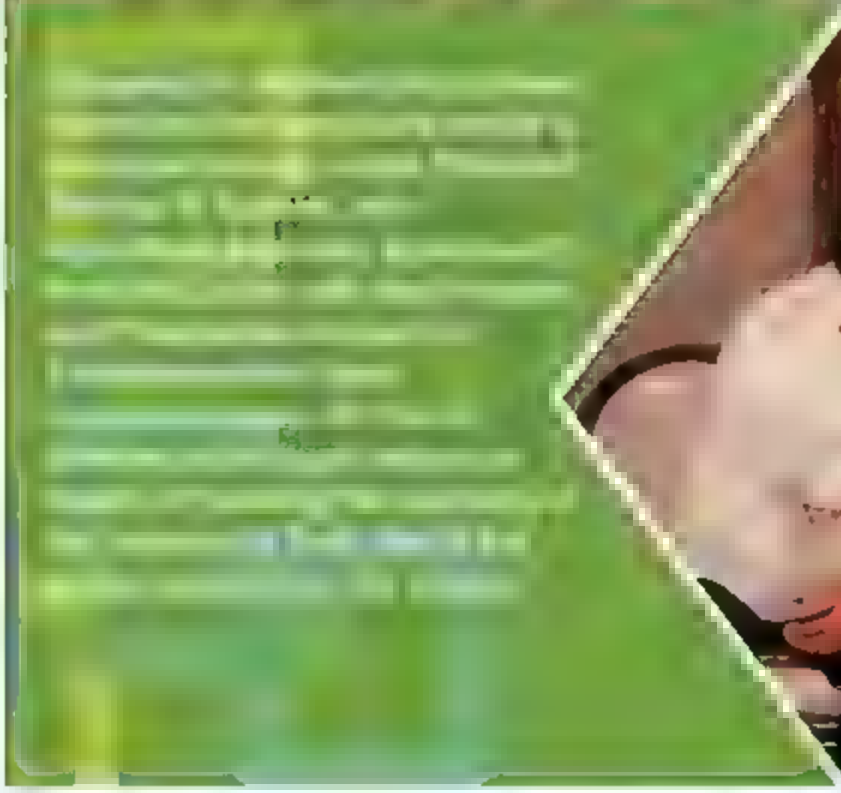
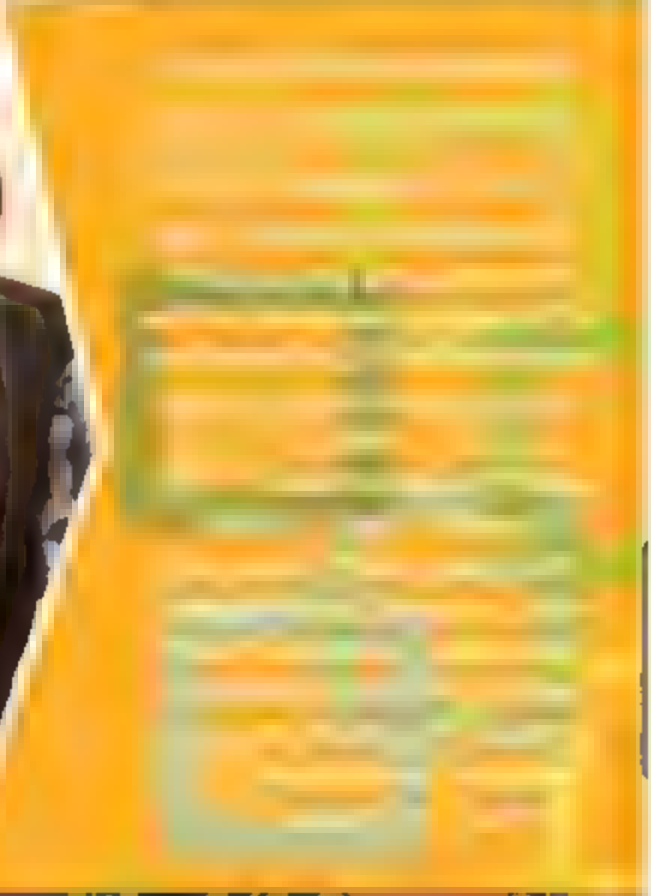
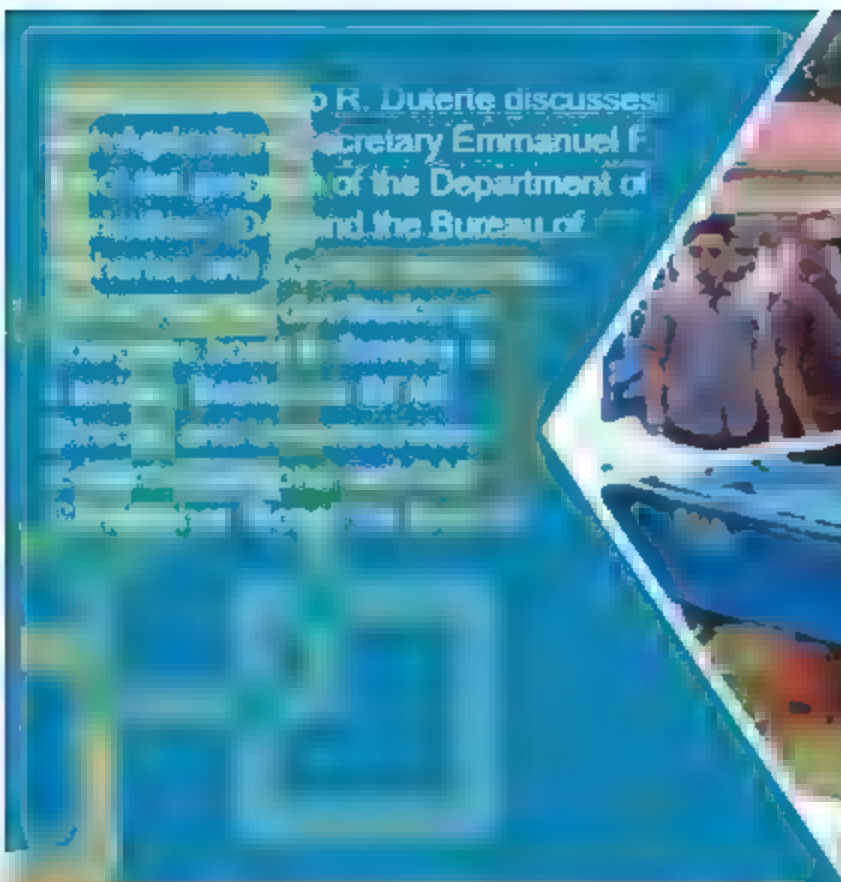
Agriculture Secretary Emmanuel F. Piñol, with residents of a community in Bunawan, Marikina City, during his field visit.

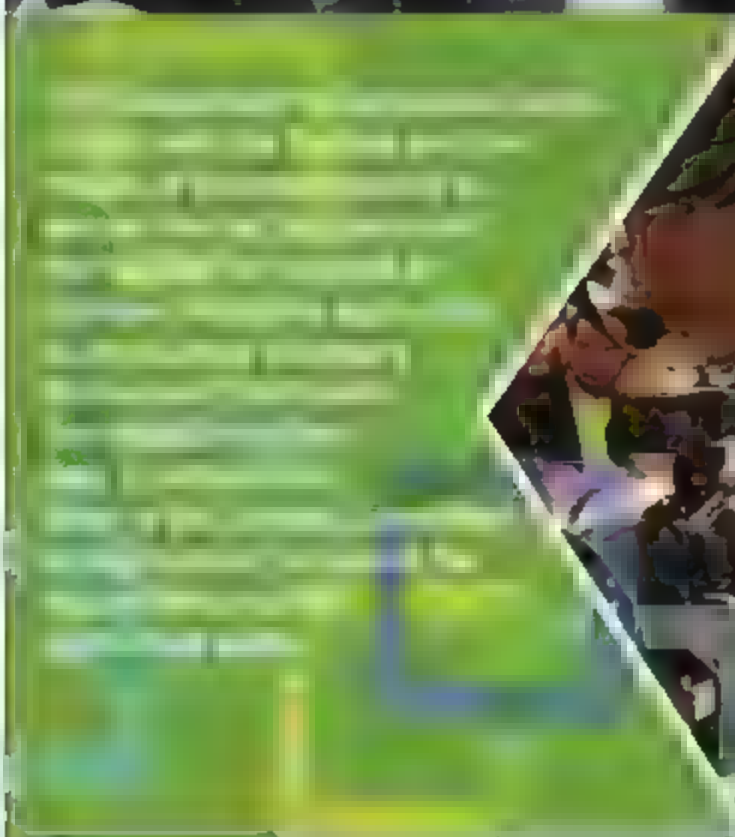
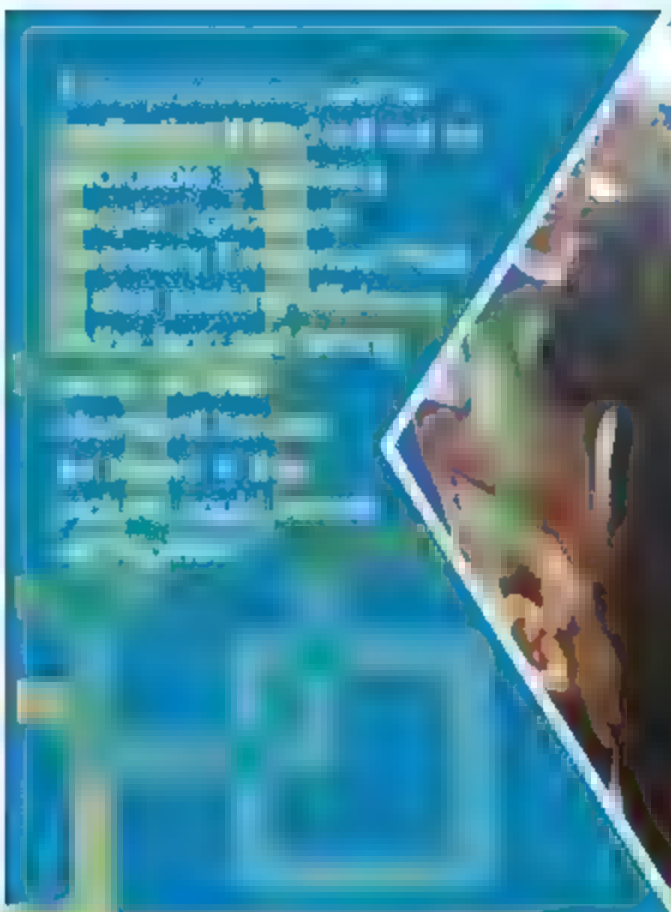


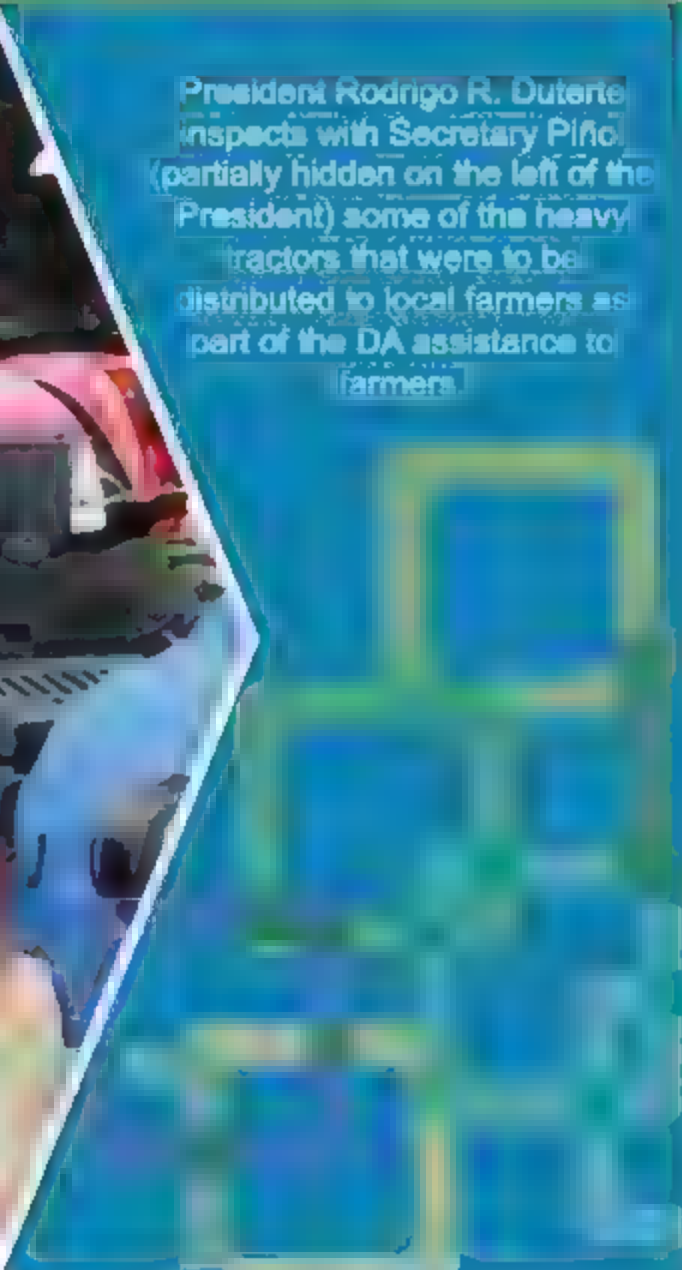








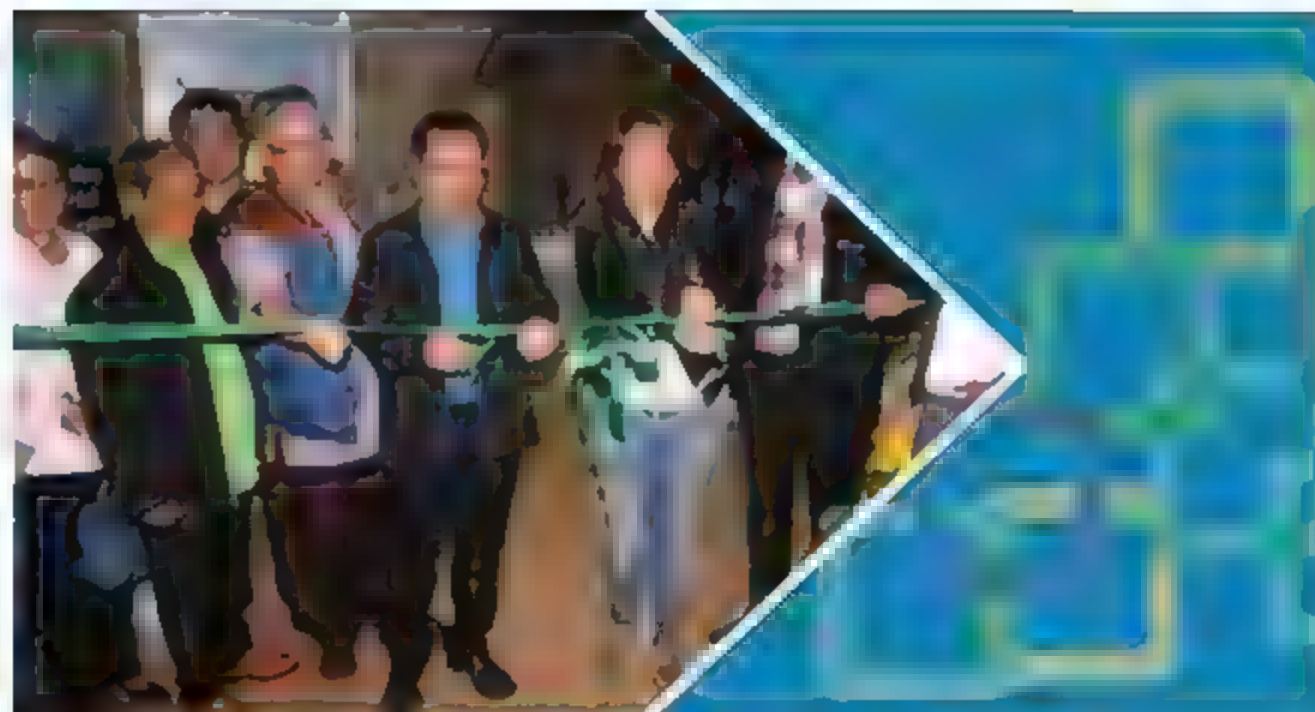




President Rodrigo R. Duterte inspects with Secretary Plinio Arzoz Jr. (partially hidden on the left of the President) some of the heavy tractors that were to be distributed to local farmers as part of the DA assistance to farmers.

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